



J. Wale inv.

E. Ascher sc.



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THE
Gardeners Dictionary.

Containing the METHODS of
CULTIVATING and IMPROVING
ALL SORTS OF *St. Morgan,*
TREES, PLANTS, and FLOWERS,
FOR THE
Kitchen, Fruit, and Pleasure Gardens;
AS ALSO
Those which are used in MEDICINE.
WITH
DIRECTIONS for the Culture of VINEYARDS,
and Making of WINE in *England.*

In which likewise are included

The PRACTICAL PARTS of HUSBANDRY.

Abridged from the last Folio Edition,
By the AUTHOR, *PHILIP MILLER*, F.R.S.
Member of the Botanic Academy at *Florence*, and Gardener to the Worshipful
Company of APOTHECARIES, at their Botanic Garden, at *Chelsea*.

— *Digna manet divini gloria ruris.* Virg. Geor.

In THREE VOLUMES.

VOL. I.

The FOURTH EDITION, Corrected and Enlarged.

L O N D O N :

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and Crown, in *St. Paul's Church-Yard*.

M.DCC.LIV.



TO THE
EARL of *MACCLESFIELD*,
P R E S I D E N T,

AND TO THE
COUNCIL and FELLOWS,

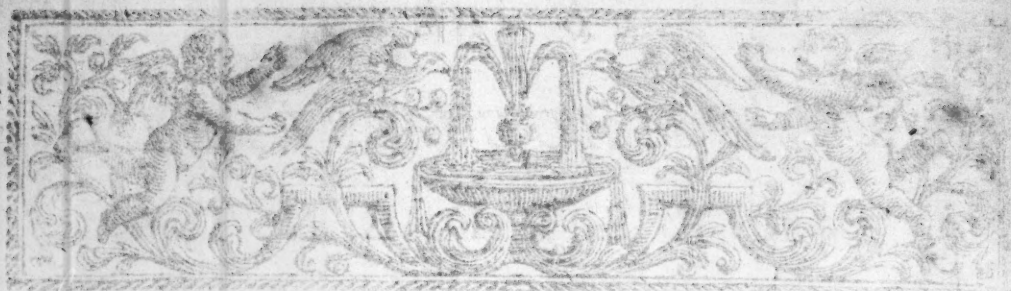
OF THE
R O Y A L S O C I E T Y
OF L O N D O N,

For the Improving of
NATURAL KNOWLEGE,

This ABRIDGMENT of the
Gardeners Dictionary,

Is most humbly Dedicated, by

Philip Miller.





T H E
P R E F A C E.



AS the Three former Impressions of this Work have been a considerable Time sold off, and as there hath been lately a new Edition of the Gardeners Dictionary, in which there are many Additions and Alterations from the former Impressions of that Work; it was judged proper to include those in this Abridgment, in order to render it more complete; as also that it might correspond better with the Folio Edition.

This Edition, therefore, is an Abridgment of the last Folio, and includes the practical Part of Gardening, and Husbandry, which is contained in that Work; and it is only the speculative Parts, which are either abridged, or wholly omitted.

For,

THE P R E F A C E.

For, as the first Design of the Author, in abridging the Gardeners Dictionary, was to reduce the Price of the Book so low, as that the Purchase of it might not be too great for the practical Gardeners; and also to prevent others, who he had great Reason to believe intended to have undertaken such a Performance, in Prejudice of the Author's Right to the Benefit of his own Labour; and that the Book might be rendered more useful to those, for whose Instruction it was principally intended; so, if the Addition of new Matter, which is included in the last Folio Edition, had been omitted in this, the Public might have esteemed it an imperfect Work.

But in this the Author has had a particular Regard to his first Intention, and has carefully avoided the inserting any thing, which might be supposed not so essential to the Practice of the Art; which would have swelled the Book, and thereby augmented its Price; but, at the same time, has not omitted any Article, which may be of Use to those who are employed in the Profession.

The Alterations which are made in this Edition, are chiefly in the Latin Names of the Plants; which was not done with any Design to depreciate the former Editions: But, as there are many of these new Names of the Plants, much more in Use than the former old ones, so the Work would have been esteemed very imperfect,

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perfect, had these been wholly omitted. But, in the doing of this, there has been great Caution used, not to change more of their Names than was absolutely necessary, either for the properly distinguishing of the Genus or Species of the Plants: For, as many of the Exotic Plants which had been long cultivated in the English Gardens, had not produced Flowers or Fruit in this Country; so their generical Characters were unknown to the former Writers on Botany; and therefore a great Part of those Plants were titled by vague Names: But, as many of these have flowered of late in Europe, and the Characters of others, which have not produced either Flowers or Fruit here, have been communicated by Persons of Skill from abroad; so the ranging of the Plants under their proper Heads is now better understood, and the Science of Botany rendered more complete.

And as there are many Persons of Distinction in England, who are pleased to honour the Art of Gardening, by making it a considerable Part of their Amusement; and who have been greatly assisting in the introducing of large Numbers of new Plants, Shrubs, and Trees, into the English Gardens; and as some of those noble Persons have studied the Science of Botany, and are well acquainted with the Characters, and true Names, of the Plants; so their Example will render it necessary, for the Professors of Gardening at least, to know the Plants they cultivate
by

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by their proper Titles, which, for their sakes, are here inserted, at the same time that the former English Names are still retained, to all those which had any; so that it will not be difficult for any Person to turn to the Plants, by having recourse to the English Index; which is made as complete as possible, with References to the Latin Names, under which they are ranged.

As to the other Alterations which are made in the practical Parts of Gardening, they are such as late Experience has warranted, and such as the Practice of the best Gardeners confirms, as the properest Method of Culture: So that, upon the Whole, this Work is rendered as complete a SYSTEM of PRACTICAL GARDENING, as the present Knowledge of Vegetation can supply.



T H E



THE Gardeners Dictionary.

VOL. I.

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BELE Tree. *Vide* Populus.

ABIES; The Fir-tree.

The Characters of this Tree are;

It is ever-green; the Leaves are single, and, for the most part, produced on every Side the Branches; the Male Flowers, or Catkins, are placed at remote Distances from the Fruit on the same Tree; the Seeds are produced in Cones, which are squamose.

The Difference between these and the Pines is, the latter having two or more Leaves produced out of each Sheath or Cover.

The Species of this Tree, which are at present to be found in the English Gardens, are;

1. ABIES *taxi folio, fructu sur-*

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sum spectante. Tourn. The Silver or Yew-leav'd Fir-tree.

2. ABIES *tenuiori folio, fructu deorsum inflexo. Tourn.* The Common Fir or Pitch-tree; sometimes called, The Norway or Spruce Fir.

3. ABIES *minor, pectinatis foliis, Virginiana, conis parvis subrotundis. Pluk. Alm.* The Virginian Fir-tree, with small roundish Cones, commonly called Hemlock Fir.

4. ABIES *piceæ folio, fructu longissimo, deorsum inflexo.* The Yew-leav'd Fir-tree, with long hanging Cones, commonly called, The Long-coned Cornish Fir.

5. ABIES *piceæ foliis brevibus, conis minimis. Rand.* The Pitch-leav'd Fir-tree, with small Cones, commonly called, The Newfoundland Black Spruce Fir.

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6. ABIES

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6. *ABIES piceæ foliis brevioribus, conis parvis biunciatibus laxis.* Rand. The shortest Pitch-leav'd. Fir-tree; with loose Cones, commonly called. The *Newfoundland* White Spruce Fir.

7. *ABIES taxi foliis, odorâ, Balsami Gileadensis.* Raii Hist. App. The Balm of Gilead Fir, vulgo.

8. *ABIES foliis prælongis, pinum simulans.* Raii Hist. Fir-tree with long Leaves, resembling those of the Pine-tree.

9. *ABIES Orientalis, folio brevi & tetragono; fructu minimo, deorsum inflexo.* Tourn. Cor. Eastern Fir-tree, with short square Leaves, and small Fruit hanging downward.

10. *ABIES major Sinensis, pectinatis taxi foliis subtus cæsis, conis grandioribus sursum rigentibus; foliorum & squamarum apiculis spinosis.* Pluk. Amalth. Great Fir-tree of China, with Yew-leaves, large Cones growing upright, and the Points of the Leaves prickly.

11. *ABIES maxima Sinensis, pectinatis taxi foliis, apiculis non spinosis.* Pluk. Amalth. Greatest China Fir-tree, with Yew-leaves not prickly at their Points.

The first and second Sorts of Firs are very common in most Gardens, and Plantations of ever-green Trees.

The first grows in great Plenty about *Strasburgh*, and some other Parts of *Germany*; from whence the Turpentine is brought to *England*; tho' I believe it is not a Native of those Countries, but has been brought thither from the *Levant*. The most beautiful of these Trees are growing upon *Mount Olympus*, from whence I have received Cones, which were upward of a Foot in Length. Dr. *Tournefort*, in his Travels, mentions the Firs of *Mount Olympus* as the most beautiful Trees in the *Levant*.

The second Sort is very common

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in the Woods of *Norway*, and is the Tree that affords the White Deals: these grow in the Valleys where the Soil is very deep.

Some of the modern Botanists have reduced all these Species to two, which are the Silver and Spruce Firs, making the others only seminal Varieties; but, from repeated Trials, I never could find any Variation in the Plants raised from Seeds of any of the Kinds here mentioned, except the common Spruce Fir; from the Seeds of which I have observed some Difference in the Length and Breadth of their Leaves, as also in the Size of their Cones; and I verily believe the long-con'd *Cornish* Fir to be only a Variety of the common Spruce Fir; altho' I have been assured by some Persons in the West of *England*, that the Seeds were originally brought from *America*.

To this Genus of Fir, Dr. *Linnaeus* has joined the Larch-tree and Cedar of *Libanus*, from the Agreement there is in their Flowers: but as they have been always separated by the former Botanists; on account of their Number of Leaves produced from the same Cover, I shall follow their Example, lest the being too much attach'd to the new Method may occasion Confusion, I would willingly avoid.

The third Sort was formerly growing in the Bishop of *London's* Garden at *Fulham*; and of late Years there has been a great Number of the Trees raised from the Cones which have been brought from *America*. This Sort is very hardy in respect to Cold; but it should have a moist Soil; for in dry Land it makes very little Progress. This never grows to be a large Tree in its native Soil, and shoots its Branches out horizontally to a great Distance, and is not

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so beautiful a Tree, as the other Sorts of Firs.

The fourth Sort, as is before-mentioned, I suppose to be only a Variety of the common Spruce Fir, from which it differs in the Closeness of its Leaves, and Length of the Cones.

The fifth and sixth Sorts are Natives of the cold Parts of *America*, growing as far North as *Canada*; but they never make large Trees so far North, their usual Height being from twenty to thirty Feet; but in *New-England* they grow much taller. The Branches of these Trees are used by the Inhabitants of *America*, to make Spruce Beer, which has occasioned their Name of Spruce Fir. They distinguish three Sorts of this Tree; *viz.* White, Black, and Red; but, from the Plants which have been raised in *England*, it does not appear there are more than two Sorts: one of these produces Cones of a fine purple Colour in the Spring, and the other produces them of a pale Green: both these Sorts are apt to produce great Numbers of Cones, before the Trees are of any Size, which checks their Growth, and renders them Dwarfs; so that they are seldom seen above twelve or fourteen Feet high in *England*; but, in his Grace the Duke of *Argyll's* Garden at *Whitton*, there are some of these Firs upward of thirty Feet high; and, if any Judgment can be formed of the Size to which they will grow, from their late Increase, they seem to vie with most of the Sorts of Firs now in *England*. The Leaves of these Trees, when bruised, emit a very strong Scent, and in warm Weather a very clear strong Turpentine exudes from the Stems of the Trees.

The seventh Sort is a Native of *America*, from whence the Seeds

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have been brought into *Europe*. This Tree abounds with a clear fragrant Turpentine, which is commonly sold in *England* for the Balm of *Gilead*; and from hence the Title of Balm of *Gilead* has been given to this Species of Fir, tho' the Tree from whence the true Balm of *Gilead* is taken, is near of kin to the *Pistachia-nut*.

This Sort of Fir is the most beautiful of any of the Kinds yet known while young; but in almost all the Places where these Trees have been planted, they have not continued fair above ten or twelve Years; and where the Trees have thriven most while young, there they have soonest decayed. The first Appearance of their Decay is, their producing a great Number of Cones, and Male Flowers; soon after which, their leading Shoot turns crooked, and a great Quantity of Turpentine runs down their Stems; then their Leaves fall off, and, in a Year or two, they die. This sudden Decay of the Trees has brought them into Disrepute, so that few Persons at present care to plant them; for the same has happened in most Soils and Situations; nor have I seen any free from this Accident, except at his Grace the Duke of *Bedford's* at *Woburn-Abbey*; where, in that noble Plantation of ever-green Trees, there are Numbers of considerable Growth which yet remain in good Health. The Soil in which these are planted, is a deep Sand, so that their Roots may strike deep, without meeting any Obstruction, to which the present Vigour of the Trees is imputed.

The eighth Sort was discovered in the *Levant* by Dr. *Tournefort*, who sent the Cones to the Royal Garden at *Paris*. This Kind of Fir is very common in the Mountains of the *Archipelago*, from whence the Cones may be easily procured. It has also

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been found in *Istria* and *Dalmatia*; and it may probably grow in many other Places.

The other two Sorts are very common in *China*, from whence I have received Seeds and Branches of both Kinds; but the Seeds, having been taken out of their Cones before they were brought over, had dried up, and lost their Germ, so that none of them grew: therefore, whoever is desirous to propagate any of the coniferous Trees, should have the Cones gathered when ripe (before they open, and let out the Seeds), in which the Seeds will continue fresh a long time: for if the Seeds are taken out of the Cones, they will not retain their growing Quality, so as to be transported from one Country to another, at any considerable Distance.

These Sorts are, at present, very rare in *England*: the ninth was formerly growing in the Garden of Mr. *Edward Morgan* in *Westminster*, a Branch of which Tree was given to Mr. *Ray* by Mr. *Doddy*, who was a very curious Botanist; but this Tree has been destroyed many Years ago. The Leaves of this Tree are much longer than those of any other Kind of Fir yet known; but as there have not been any Cones of these Trees brought into *England*, I do not know how they differ in their Cones. The Seeds which I have received were larger than those of any other Fir yet known.

These Trees are all raised from Seeds taken out of their polyspermous Cones. The way to get out the Seeds is, either by exposing the Cones to a gentle Fire, or by soaking them all Night in Water, which will cause their squamose Cells to open, and readily emit their Seeds. The former Method is the best, provided they are not exposed to too

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great Heat. But this ought not to be done until you are ready to sow them; which is best performed in the Middle or Latter-end of *March*.

These Plants should be all raised in a Nursery, where they may be protected from the Birds; otherwise they will be in Danger of being destroyed when they first come up: for as they bring up the Husk of the Seed on the Top of the Plant, the Birds in picking off the Husk will break off the Plants, whereby a whole Bed may be lost in a few Hours, if they are not carefully guarded from them.

The best time for sowing of these Seeds is about the Latter-end of *March*, or the Beginning of *April*, on a Bed of light Earth, covering the Seeds about half an Inch deep with the same Sort of Earth. If this Bed is netted over, to keep off the Birds, it will be a secure Method to prevent them from destroying the young Plants at their first coming out of the Ground; at which time the Plants should be screened from the Sun in the Middle of the Day, by covering the Beds with Mats; because too much Sun frequently destroys these Plants when they are young. In this Bed the Plants should remain until the following Spring; when there should be a Number of Beds prepared in the Nursery to receive these seedling Plants; and the Beginning of *April* they should be transplanted into the Beds, at the Distance of six Inches Row from Row, and at three Inches asunder in the Rows. In removing these Plants, they should be very carefully raised up with a Trowel, so as not to break off the Fibres of their Roots; and they should be kept as little time out of the Ground as possible; and during the time they are out,

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out, their Roots should be covered, to prevent the Wind from drying their Fibres: and in planting, the Earth should be pressed close to the Roots of the Plants, to prevent the Air from penetrating the Ground to the Roots of the Plants. If the Season should prove dry, it will be proper to water the Plants every Week once or twice, according to the Warmth of the Weather; and the Beds should be covered with Mats, to screen the Plants from the Sun, and drying Winds, until they have taken good Root; after which time they will require no farther Care, but to keep them clear from Weeds. In these Beds the Plants may remain two Years; at the End of which they should be transplanted into an open Spot of Ground; for their Roots will in that time meet quite over the Beds. This Ground should be well trenched and cleared from the Roots of all bad Weeds, and made level to receive the Plants, which should be transplanted about the Beginning of *April*, just before they begin to shoot; and if it should prove moist Weather, it will be of great Advantage to the growing of the Plants. In removing them out of the Beds, there should be great Care taken, not to tear off or injure their Roots; nor should too many of the Plants be taken up at one time; but rather plant them as fast as they are taken up, that they may be as little time out of the Ground as possible; for the drying Winds which usually happen at this Season, will greatly injure the Roots of these Plants, if they are much exposed thereto.

The Distance which these Plants should be placed in this Nursery should be four Feet Row from Row, and two Feet asunder in the Rows. This Distance may by some Persons

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be thought too great; but if they consider how their Roots spread in the Ground, as also that when they are planted nearer together, it will be very difficult to take up the Plants again, without cutting and tearing off their Roots, especially if they are not all taken up clean at the same time; these Considerations will have greater Weight than that of the Loss of a little Ground, with those Persons who have a regard to the future Welfare of the Plants. In planting of the Plants, it will be the better way to draw a Line cross the Ground, and to dig out a Trench of a Foot wide thereby, into which the Plants may be placed at the Distance of two Feet asunder; then fill the Earth into the Trench, covering the Roots of the Plants with the finest Part of it, scattering it carefully between the Roots; and when the whole Trench is filled in, press the Earth gently down with your Feet; but by no means tread it too hard, especially if the Ground is strong, or apt to bind too close.

When the Plants are planted, if the Season should prove dry, they should be watered to settle the Earth to their Roots; and if this is repeated three or four times (if the Season should continue dry), it will greatly promote their taking new Root, and secure them from the Injuries of the drying Winds.

In this Nursery the Plants may remain two or three Years, according to the Growth they shall have made; and during this time, the Ground between the Plants should be constantly kept clean from Weeds, and dug between the Rows every Spring; in doing of which, Care must be taken not to cut or injure the Roots of the Plants: this is all the Culture they will require during their Continuance in the Nursery.

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And when they are transplanted into the Places where they are to remain, the necessary Care to be taken is, in taking them up, not to injure or cut off their Roots, and to let them be as little time out of the Ground as possible; and when they are out, to guard their Roots from the drying Winds. The surest time for removing these Trees is about the Beginning of *April*: tho' they may, and often are removed with Success at *Michaelmas*; yet the Spring is the more sure Season, especially in moist Land.

Most of the Kinds of Firs may be removed at the Height of six or seven Feet; but those of two Feet high are much better, and will in a few Years get the Advantage of those taller Trees: therefore I would not advise the transplanting of these Trees when they are much above two Feet high, especially if they have stood long in the Nursery unremoved; for then their Roots will have extended themselves to a great Distance, which will be cut in taking them out of the Ground; and where great Amputation is used, either to the Roots or Branches of these Trees, the Quantity of Turpentine, which commonly issues from these Wounds, will greatly weaken the Trees. There is also another Advantage in planting these Trees small, which is that of not requiring Staking to secure them from being blown down by strong Winds, which in tall Trees is a great Trouble and Expence: and whoever will give themselves the Pains to observe how much Trees of two Feet high exceed in Growth those which are removed of much higher Growth, will, I am sure, be convinced of the Truth of what I have above said.

These Trees are chiefly cultivated for ever-green Plantations in Gar-

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dens and Parks, where, by their perpetual Verdure, they have a singular Beauty in Winter; and in Summer they are not without some Beauty, from the Contrast there is between them and the other Woods, by the different Shades of Green. But as neither of the Sorts of Firs are equal to the *Scotch* Pine in the Goodness of the Timber, these are not so profitable for large Plantations, which are designed for Improvement more than Beauty.

The common Spruce Fir is what the white Deals are cut from. These Trees grow in the deep strong Soils of *Norway* and *Denmark*; but they will grow in almost any Soil or Situation in *England*, provided it be not within the Reach of the Smoke of great Cities, which is very injurious to all these Sorts of Trees; nor do these Trees thrive near so well in dunged Land, as in fresh uncultivated Soils. The Disrepute these Trees have been under for some Years past, has been occasioned by their being planted too close together, or too near other Trees, whereby the Air has been excluded from their Branches, which has occasioned most of their Underbranches to decay; so that when the Trees are viewed from the Ground under their Branches, they have a greater Appearance of dead than living Trees. But where they have been allowed a good Distance, and planted in a strong fresh Soil, they have had their Branches quite fresh within six or eight Feet of the Ground in Trees upward of sixty Feet high. Therefore these Trees should not be planted nearer than twelve Feet apart; nor should they be so near, where the Plantation is more than three Rows deep; in which Case eighteen or twenty Feet asunder will be full near enough, especially

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especially where the Trees are designed to have their Branches feathered near the Ground, in which one of the Beauties of these Trees consists.

The Silver Fir requires a stronger Land than the Spruce; for in dry Ground they seldom make much Progress; and many times, after they have arrived to a considerable Size, they are destroyed by very dry Seasons, where the Soil is shallow, or too dry. But when they are planted in a proper Soil, they grow to a very large Size, and are very beautiful, having the Under-side of their Leaves white, and the Upper-side of a dark-green Colour.

The Balm of *Gilead* Fir is still more beautiful; because the Branches of the Trees are closely covered with Leaves on every Side; whereas the Leaves of the Silver Fir are produced only on two Sides of the Branches, so as to appear quite flat like a Comb. But the short Duration of the Balm of *Gilead* Fir, in most Places where it has been planted, has greatly discouraged many Persons from propagating that Tree.

The two Sorts of *Newfoundland* Spruce Fir are as yet uncommon in the Nurseries; but as there has been a good Quantity of their Cones brought into *England* the two or three last Years, they will soon become common; especially as there are many Trees of these Kinds in *England*, which begin to produce Cones: but as these Trees are of small Growth, they are proper for small Plantations only, being unfit to mix with the other Sorts of Fir.

The *Scotch* Fir, as it is usually called, being a Pine, I shall refer that to its proper Genus of *Pinus*; under which Article all the Sorts of *European* and *American* Pines are brought; and as their Culture is

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somewhat different from that of the Fir, the Method of propagating them will be there fully described.

The Seeds of all the Sorts of Firs are easily taken out of their Cones, which are much looser than the Cones of the Pines; but as these do so easily open with Heat, the Seeds generally drop out in hot Weather, and thereby are spoiled from growing soon after. And the Cones of the Silver and Balm of *Gilead* Firs fall to Pieces on the Trees, if they are not gathered by the Middle or End of *October*, whereby all their Seeds will be lost; so that whoever is desirous to save their Seeds, should carefully watch the time of their ripening.

When the Branches of these Trees are cut off, to trim them up to have Stems, it should be done gradually, never cutting more than two Tier of Branches in one Year; for if too many Wounds are made at the same time in these resinous Trees, the Turpentine will issue out in such Quantities as to weaken and check the Growth of them. The best time for pruning these Trees is in *September*; at which time they do not abound so much with Turpentine as in the Spring; so do not bleed much; and what does flow out at that Season, is seldom more than is necessary for covering the Wounds, to prevent the Wet and Cold of the succeeding Winter from penetrating the wounded Parts.

ABROTANUM, or Southern-wood.

This Plant is better known by its outward Appearance, than by any distinct Characters which can be given of it, agreeing in most Parts with the Wormwood, from which it is not easy to separate it. But as it has been distinguished from the Wormwood by all the antient

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Botanists; and the *English* Name of Southernwood being well known; I shall continue this Distinction, to avoid confounding those Readers who are less acquainted with Botanical Definitions.

The *Species* are;

1. ABROTANUM *mas angustifolium majus*. C. B. P. Greatest narrow-leaved Southernwood.
2. ABROTANUM *latifolium inodorum*. C. B. P. Broad-leav'd Southernwood without Scent.
3. ABROTANUM *mas angustifolium incanum*. C. B. P. Hoary narrow-leav'd Southernwood.
4. ABROTANUM *campestre, cauliculis albicantibus*. C. B. P. Fine-leav'd wild Southernwood, with whitish Stalks.
5. ABROTANUM *campestre, cauliculis rubentibus*. C. B. P. Fine-leav'd wild Southernwood, with redish Stalks.
6. ABROTANUM *compestri simile Tingitanum*. H. L. Tangier Southernwood, resembling the wild Sort.
7. ABROTANUM *campestre incanum, carlinæ odore*. C. B. P. Hoary Field Southernwood, with a Smell like the Carline Thistle.
8. ABROTANUM *humile, corymbis majoribus aureis*. H. R. Par. Dwarf Southernwood, with large golden Flowers.
9. ABROTANUM *Hispanicum, absinthii Pontici folio*. Tourn. Spanish Southernwood, with a Pontic Wormwood-leaf.
10. ABROTANUM *Hispanicum maritimum, folio crasso splendente et rigido*. Tourn. Spanish Sea Southernwood, with a thick shining stiff Leaf.
11. ABROTANUM *mas ex Surinam, molli hirsutiae canescens*. Pluk. Almag. Hoary Male Southernwood from Surinam.
12. ABROTANUM *elatius subincanum, foliis creberrimis, secundum*

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caulem in metæ formam fastigiatis. Pluk. Almag. Taller hoary Southernwood, with frequent Leaves gathered into a kind of Pyramid.

13. ABROTANUM *Orientale annuum, absinthii minoris folio*. Tourn. Cor. Annual Eastern Southernwood, with a Leaf of the lesser Wormwood.

14. ABROTANUM *Orientale, chamæmeli folio*. Tourn. Cor. Eastern Southernwood, with a Chamomile-leaf.

15. ABROTANUM *Africanum, foliis argenteis angustis, floribus spicatis, capitulis copioso tomento donatis*. D. Sherard. Raii Supp. African Southernwood, with narrow silver Leaves, spiked Flowers, and very woolly Heads.

16. ABROTANUM *Africanum, foliis argenteis angustis, floribus umbellatis, capitulis tomentosis*. Raii Supp. African Southernwood, with narrow silver Leaves, umbellated Flowers, and woolly Heads.

The first, second, third, fourth, and fifth Sorts may be propagated by Slips or Cuttings planted the Latter-end of *March*, or the Beginning of *April*, on a Bed of fresh light Earth, observing to water them, until they have taken Root, two or three times a Week, provided the Season proves dry; and if they are shaded in the Middle of the Day, in hot Weather, it will greatly forward them.

The first Sort is commonly propagated by the Gardeners near *London*, to furnish the Balconies and little Courts of the Citizens; for which Purpose this Plant is well adapted, as it endures the Smoke of *London* better than most other Plants; and the Leaves, when bruised, emit an agreeable Odour. This Sort was formerly used in Medicine; but of late has been banished the Shops.

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The second and third Sorts are at present more rare in the *English* Gardens, tho' they are equally hardy with the other Sort; and may be planted for Under-shrubs, in Quarters of low-growing Trees, where, by the Diversity of their Leaves, they will afford an agreeable Variety.

The fourth and fifth Sorts grow commonly in *Germany*, *Italy*, and *Narbonne*, by Way-sides, and in barren Places; and are also found in *England* by the Way-side from *Newmarket* to *Lynn*, near a Village called *Elden*. These seem to be but Varieties from each other, and only differ in the Colour of their Stalks. They are seldom preserved in Gardens, unless it be for Variety, by some Botanists. Whoever is desirous to have these Plants, may easily obtain them from the Places of their Growth, either the Plants, or the Seeds; but the Seeds should be sown soon after they are ripe; for they, being very light, will lose their growing Quality, if they are kept long out of the Ground. These Plants seldom continue above three or four Years, when transplanted into Gardens, so that new ones should be raised from Seed to succeed them.

The sixth Sort is not so hardy as any of the former; for, being a Native of warm Countries, it requires to be sheltered from the Frost in Winter. This may be propagated as the former; but should be kept in Pots, that they may be placed under a Frame in Winter, where they should have as much free Air as possible in mild Weather; but in hard Frosts may be covered with Glasses and Mats to secure them.

The seventh Sort should be treated in the same manner as the fourth or fifth Sorts, and is equally hardy.

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These will continue much longer on a dry barren Soil, than when they are planted in a rich Garden Earth.

The eighth, ninth, tenth, and fourteenth Sorts may be propagated by Seeds, or from Slips and Cuttings: if from Seeds, they should be sown on a warm Border of dry Earth early in the Spring; and when the Plants are come up, they must be constantly kept clear from Weeds. When the Plants are about four Inches high, some of them may be planted into Pots, that they may be removed under Shelter in the Winter; and the others may be transplanted into a warm Border, observing to shade and water them until they have taken new Root. These Plants are sometimes destroyed by severe Frost, while they are young; but afterwards they will endure the Cold of our ordinary Winters extremely well, especially if they are planted on a dry lean Soil. If you propagate these by Slips or Cuttings, they must be treated in the same manner as hath been directed for the common Sort.

The eleventh and twelfth Sorts are tenderer than any of the before-mention'd. These may be propagated either by Seeds, or from Slips, as the former: but they must be kept in Pots, and require a good Green-house in Winter, where they should be placed to enjoy as much free Air as possible in mild Weather.

The thirteenth Sort is an annual Plant, which rarely produces good Seeds in this Country. The surest Method to obtain good Seeds is, to raise the Plants towards the latter Part of Summer, and preserve them through the Winter, which will cause them to flower early the following Summer, so that they will have time to perfect their Seeds: whereas

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whereas those which are raised in the Spring, will flower late in Autumn, and the cold Weather will come on before they have time to ripen their Seeds.

The fifteenth and sixteenth Sorts rarely produce good Seeds in Europe; but they may be easily propagated by Cuttings or Slips, which should be planted in Pots filled with light fresh Earth, and plunged into a very moderate Hot-bed, observing to water and shade them until they have taken Root; after which time they should be inured to bear the open Air by degrees; then they should be taken out, and placed where they may have the morning Sun, and sheltered from the strong Winds: in which Situation they should remain till October, when they should be removed into the Green-house, and placed where they may enjoy as much free Air as possible in mild Weather, and must be frequently refreshed with Water; but they must be secured from Frost, otherwise they will be destroyed.

ABROTANUM FOEMINA.

Vide Santolina.

ABSINTHIUM, Wormwood.

The Characters of this Plant are;

It hath an indeterminate Stalk, branching out into many small Shoots, which are furnished with Spikes of naked Flowers hanging downward: the Leaves are hoary, and of a bitter Taste.

This Genus is by Doctor Linnaeus joined to *Artemisia*, or Mugwort, as was before observed in *Abrotanum*.

The Species are;

1. ABSINTHIUM *vulgare majus*. J. B. Common Wormwood.
2. ABSINTHIUM *Ponticum tenuifolium incanum*. C. B. Pin. True Roman Wormwood.

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3. ABSINTHIUM *maritimum, lavenderæ folio*. C. B. Pin. Sea Wormwood, with Leaves like Lavender.

4. ABSINTHIUM *insipidum, absinthio vulgari simile*. C. B. Pin. The insipid Wormwood is so like the common, as not easily to be distinguished, but by smelling and tasting the Herb, unless by such as are very skilful in Botany: but this Sort is not very commonly met with in England.

5. ABSINTHIUM *arborescens*. Lob. Icon. 753. Tree Wormwood.

6. ABSINTHIUM *Ponticum montanum*. C. B. P. Common mountain Wormwood.

7. ABSINTHIUM *Ponticum Creticum, grati odoris*. C. B. P. Candy Pontic Wormwood, of a pleasant Smell.

8. ABSINTHIUM *Ponticum tenuifolium, caulibus purpurascens, foliis supina parte viridioribus*. C. B. P. Narrow-leav'd Pontic Wormwood, with purplish Stalks, and Leaves greener on the Under-side.

9. ABSINTHIUM *Ponticum tenuifolium Austriacum*. C. B. P. Austrian Wormwood.

10. ABSINTHIUM *Ponticum repens vel supinum*. C. B. P. Creeping Pontic Wormwood.

11. ABSINTHIUM *maritimum, foliis superioribus in aliquot lacinias divisis*. C. B. P. Sea Wormwood, with the upper Leaves divided into some Jags.

12. ABSINTHIUM *Seriphium Germanicum*. C. B. P. German Sea Wormwood.

13. ABSINTHIUM *Seriphium Belgicum*. C. B. P. Belgic Sea Wormwood.

14. ABSINTHIUM *maritimum, Seriphio Belgico simile, latiore folio, odoris grati*. Pluk. Sea Wormwood, resembling the Belgic Wormwood, with a broader Leaf, and a pleasant Smell.

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15. *ABSINTHIUM Seriphium Gallicum*. C. B. P. French Sea Wormwood.

16. *ABSINTHIUM Sanctonicum Gallicum*. C. B. P. French Wormwood.

17. *ABSINTHIUM Seriphium montanum candidum*. C. B. P. White mountain Wormwood.

18. *ABSINTHIUM Alpinum incanum*. C. B. P. Hoary Wormwood of the Alps.

19. *ABSINTHIUM Alpinum candidum humile*. C. B. P. Dwarf white Wormwood of the Alps.

20. *ABSINTHIUM Seriphium Hispanicum, flore oblongo*. Tourn. Spanish Wormwood, with an oblong Flower.

21. *ABSINTHIUM Halepense, grati odoris, coma delicatiore*. Pluk. Wormwood of Aleppo, of a pleasant Smell, with a delicate Spike.

22. *ABSINTHIUM Africanum arborescens, folio vermiculato incano*. Oldenl. African Tree Wormwood, with an hoary vermiculated Leaf.

23. *ABSINTHIUM Africanum spicatum, foliis tenuissimis brevissimis integris*. D. Sherard. Raii Supp. Spiked African Wormwood, with narrow short intire Leaves.

24. *ABSINTHIUM maritimum nostras*. D. Preston. Raii Supp. Scotch Sea Wormwood.

25. *ABSINTHIUM Orientale fruticosum incanum amplo folio tenuissime diviso*. Tourn. Cor. Shrabby Eastern Wormwood, with large hoary Leaves finely divided.

26. *ABSINTHIUM orientale incanum, capillaceo folio, floribus in capitulum congestis*. Tourn. Cor. Hoary Eastern Wormwood, with a capillaceous Leaf, and Flowers collected into an Head.

27. *ABSINTHIUM Orientale incanum tenuifolium, floribus luteis in capitulum congestis, & sursum spe-*

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stantibus. Tourn. Cor. Hoary narrow-leav'd Eastern Wormwood, with yellow Flowers collected into an Head, and looking upward.

28. *ABSINTHIUM Orientale incanum, tanaceti folio, inodorum*. Tourn. Cor. Hoary Eastern Wormwood, with a Tansey-leaf, without Smell.

29. *ABSINTHIUM Orientale tenuifolium, argenteum & sericeum, flore magno*. Tourn. Cor. Eastern Wormwood, with narrow silver-colour'd filken Leaves.

30. *ABSINTHIUM Orientale vulgari simile, sed longe minus amarum*. Tourn. Cor. Eastern Wormwood, like the common, but far less bitter.

31. *ABSINTHIUM Orientale tenuifolium incanum, odore lavendulae, & insipidum*. Tourn. Cor. Hoary narrow-leav'd Eastern Wormwood, with a Lavender-smell, and insipid.

32. *ABSINTHIUM Orientale tenuifolium incanum, lavendulae odore & amarum, flore deorsum spectante*. Tourn. Cor. Hoary narrow-leav'd Eastern Wormwood, with a Lavender-smell, and bitter, with the Flower hanging down.

The first of these Sorts is very common in England, in the Roads, and upon Dunghills; but it is also planted in Gardens for common Use. It may be propagated by Slips, in March or October; or may be raised from Seeds, which should be sown soon after they are ripe.

The second, third, and fourth Sorts are only found in curious Gardens of Plants. They are all easily raised, by planting of Cuttings and Slips in the Spring or Autumn; but if in the Autumn, it should be done the Beginning of September, that they may take Root before the cold Weather; and if in the Spring, it must be before they shoot; tho' they may be slipped any time in Summer, provided they are shaded from

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from the Sun, and duly watered, until they have taken Root. The *Roman* and Sea Wormwoods are great Creepers at the Roots, and will soon spread over a large Piece of Ground. The Tree Wormwood rises to be a Shrub five or six Feet high, and is kept in Gardens as a Rarity; and was formerly preserved in Green-houses; but hath been found hardy enough to endure our common Winters abroad, if planted in Places sheltered from the Northern Winds. This Shrub makes an agreeable Variety in small Quarters of Ever-greens, or flowering Shrubs. The hoary Leaves, which continue all the Year fresh, strike the Eye at a great Distance, and have a good Effect in diversifying the Plantations. This Shrub is easily raised from Cuttings planted in any of the Summer Months (under an Hedge or Wall), where they may have only the morning Sun; and being frequently watered, will take Root in a Month or six Weeks time, when they may be removed to any Places where they are designed to remain; observing in this (as in many other Shrubs and Plants which are Natives of a warmer Climate) to place them in a dry Situation: Wet, especially in Winter, is the most destructive to all these Sorts of Plants.

The twenty-fifth Sort, being a Shrub, must be propagated by Cuttings, after the manner directed for the fifth Sort. This must be kept in Pots, that they may be removed into the Green-house in Winter, because in very severe Frost it is often destroyed; tho' in mild Winters it will live in the open Air, provided it is planted on a dry Soil, and in a warm Situation.

The twenty-second and twenty-third Sorts are Natives of the *Cape of Good Hope*. These Sorts may also

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be propagated by planting either Cuttings or Slips in any of the Summer Months, observing to water and shade them until they have taken Root; then they may be placed abroad among other Exotic Plants, where they may remain till *October*, when they must be removed into the Green-house, and placed with Myrtles, and other hardy Plants, which require a large Share of free Air in mild Weather, and only want Protection from severe Frosts. They will require to be frequently watered in mild Weather, and should have a light fresh Soil. The twenty-second Sort will rise to the Height of seven or eight Feet; but the twenty-third Sort is an humble Plant. These seldom produce Seeds in *Europe*.

All the other Sorts are low Plants, which may be propagated by their Roots, many of which are apt to creep too much, so as to render it difficult to keep them within Compass. These do many of them die to the Ground in Autumn, and rise again the following Spring. The best Season for transplanting these Plants is in *March*, just before they begin to shoot: they will grow in almost any Soil or Situation; but the Eastern Kinds should be planted in a warmer Place than the other Sorts. They should be planted in Beds about four Feet broad, with Paths two Feet broad between each Bed, for the more convenient cleaning them from Weeds, and for gathering the Herb for Use. The Distance which should be allowed to the Plants ought not to be less than eighteen Inches, or two Feet; because, as they are great Runners by the Roots, they will soon meet, and spread over the whole Beds. They may remain in these Beds three or four Years, and will require no other Culture,

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Culture, but to keep them clear from Weeds; and every Spring, before they shoot, to cut off their dead Stalks, and spread a little fresh Earth over the Beds. At which time you should dig up the Paths between the Beds, and cut off the Roots which may have spread into them, otherwise they will soon over-run the Paths.

There are a great Variety of the Sea Wormwoods, which grow plentifully on the salt Marshes, in divers Parts of England, which are indifferently gathered, and brought to the Markets, and sold for the Roman Wormwood; from which they differ greatly in the Colour of their Leaves, as also in their Taste and Smell: but by many Persons the Sea Wormwoods are preferred to the true Roman Wormwood, as having a stronger and more grateful Scent; though the Roman Wormwood is thought to be less nauseous to the Stomach. However, as that is now generally disused, it would be to little Purpose to recommend it; since it would be difficult to alter a Practice which has been so long continued.

ABRUS. *Vide Orob.*

ABUTILON, Yellow Mallow.

The Characters of this Plant are;

It hath the whole Appearance of the Mallow, in both Leaves and Flowers: the Flower hath a single Cup: the Seeds, which are shaped like a Kidney, are each of them lodged in a separate Cell.

The Species are;

1. ABUTILON. *Dod.* The common Yellow Mallow.

2. ABUTILON *Indicum.* *J. B.* The Indian Yellow Mallow.

3. ABUTILON *Carolinianum rep-
tans, albae foliis, gilvo flore. Aët.
Phil.* The Carolina Abutilon, with Leaves like the Vervain-mallow.

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4. ABUTILON *Americanum, amplissimo folio, caule villoso. Plum.* The large-leav'd American Abutilon, with woolly Stalks.

5. ABUTILON *Americanum, fructu subrotundo pendulo, è capsulis vesicariis crispis conflato. Rand.* The American Abutilon, with roundish pendulous Fruit, whose Seed-vessel is like a swelled Bladder.

6. ABUTILON *althæoides, flore carneo, fructu globofo. Hort. Elth. p. 1.* Shrubby Abutilon, with the Appearance of Marsh-mallow, a flesh-colour'd Flower, and a round Fruit.

7. ABUTILON *periplocæ acutioris folio, fructu stellato. Hort. Elth. p. 4.* Abutilon, with a pointed Periploca-leaf, and a starry Fruit.

8. ABUTILON *Americanum, folio hastato, flore amplo purpureo-cæruleo, longo petiolo infidante. Houst.* American Abutilon, with a spear-shaped Leaf, and a large blue Flower, with a long Foot-stalk.

9. ABUTILON *Americanum, flore albido, fructu è capsulis vesicariis planis conflato, pediculo geniculato. Martyn. Cent. i. 33.* American Abutilon, with a white Flower, and a plain bladder Fruit, with a jointed Foot-stalk.

10. ABUTILON *Americanum, ribesii foliis, flore carneo, fructu pentagono aspero. Houst.* American Abutilon, with Curran-leaves, a flesh-colour'd Flower, and a rough five-corner'd Fruit.

11. ABUTILON *Americanum frutescens, folio amplo cordato subtus lanuginoso, floribus amplis luteis. Houst.* Shrubby American Abutilon, with a large heart-shaped woolly Leaf, and large yellow Flowers.

12. ABUTILON *fruticosum aquaticum, folio cordato scabro, flore pallide luteo. Houst.* Shrubby aquatic Abutilon, with a rough heart-shaped Leaf, and a pale yellow Flower.

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13. *ABUTILON Americanum fruticosum, foliis cordatis, floribus parvis purpurascens. Houst.* Shrubby American Abutilon, with heart-shaped Leaves, and small purplish Flowers.

14. *ABUTILON lavateræ flore, fructu cristato. Hort. Elth.* Abutilon with a Flower like Lavatera, and a crested Fruit.

15. *ABUTILON arboreum, folio althææ, fructu villoso, flore maximo, ex rubro flavescente. Houst.* Tree Abutilon, with a Marsh-mallow-leaf, an hairy Fruit, and a very large yellowish red Flower.

The first Sort here mentioned is an annual Plant, which is hardy enough to come up in the common Ground, and will perfect its Seeds without any Trouble; but does not bear to be transplanted, unless when the Plants are very young; so that the Seeds should be sown where the Plants are designed to remain; and if the Seeds are permitted to fall, they will come up the following Spring without any Care. This is very common in *Virginia*, and most of the other Parts of *America*; where it is called by some of the Inhabitants Marsh-mallow, because the Leaves are soft and woolly. There is no great Beauty in this Sort.

The third Sort is also a trailing annual Plant, whose Branches put out Roots at their Joints, as they lie upon the Ground; but is destroyed by Frost in Autumn. This is also hardy enough to ripen Seeds in the open Air, which, if permitted to scatter, will come up the following Spring, and requires no Care.

The second, fifth, seventh, eighth, ninth, tenth, and fourteenth Sorts are all of them annual Plants, which require to be sown on a moderate Hot-bed; and when the Plants have obtained Strength, they may be transplanted out into the common

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Ground, where they will perfect their Seeds in Autumn; but as they are Plants of little Beauty, they are seldom cultivated in Gardens.

The fourth, eleventh, twelfth, and thirteenth Sorts, are shrubby Plants, which are propagated by Seeds: these must be sown upon a moderate Hot-bed; and the Plants must be potted, and preserved in a moderate Stove, otherwise they will not endure the Cold of the Winter in *England*.

The sixth Sort grows to be a Shrub of eight or nine Feet high, and may be preserved thro' the Winter in a Green-house, and exposed in Summer in the open Air, where it will flower, and produce ripe Seeds in Plenty.

The second, fourth, and fifth Sorts are also annual; but being Natives of hot Countries, they require to be raised on an Hot-bed in the Spring; and must be afterwards transplanted into Pots, and plunged on a fresh Hot-bed, in order to bring them forward, otherwise they will not perfect their Seeds in this Country.

The fifteenth Sort is a Native of the *West-Indies*. The Seeds of it were sent from the North Side of *Jamaica*. This grows to the Height of ten or twelve Feet, and makes an handsome Appearance: the Flowers are very large, and, at their first Opening, are of a pale-red Colour; but, as they expand, change to a yellowish Colour, and are of short Duration.

It is propagated by Seeds, which must be sown upon an Hot-bed in the Spring, and afterward managed as hath been directed for the other tender Sorts before-mentioned; and must be preserved in a warm Stove, otherwise it will not live thro' the Winter in *England*. In Summer it should have a large Share of free

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Air in warm Weather, and be frequently watered. It flowers in July and August, and with Care will ripen Seeds in England.

ACACIA, Egyptian Thorn, or Binding Bean-tree.

The Characters of this Tree are;

It hath a tubulous Flower, consisting of one Leaf, with many Stamina or Threads, which are many of them collected into a kind of Sphere or Globe: the Pointal of the Flower afterward becomes a Pod, in which are included several Seeds, each of which is separated by transverse Diaphragms, and are generally surrounded with a sweetish Pulp.

The Species of this Tree are;

1. ACACIA Americana, *abruæ foliis, triacanthos, fove ad axillas foliorum spina triplici donata.* Pluk. Mantif. 1. The American Acacia, with triple Thorns, or the large-horn'd Acacia, commonly called the Locust-tree in the West-Indies.

2. ACACIA *abruæ foliis, triacanthos, capsula ovali unicum semen claudente.* Catesb. Hist. Carolin. Vol. i. p. 13. The Water Acacia.

3. ACACIA vera. J. B. The true Egyptian Acacia.

4. ACACIA Indica, *foliis scorpioidis leguminosæ, filiquis fuscis teretibus resinosis.* H. L. The Indian Acacia, with taper resinous Pods.

5. ACACIA *similis Mexiocanæ, spinis cornu similibus.* Breyn. The great horned Acacia, vulgo.

6. ACACIA *quodammodo accedens, sive Ceratia & Acacia media Jamaicensis spinosa, bigeminatis foliis, flosculis staminibus, atro nitente fructu, filiquis intortis.* Pluk. Phyt. Acacia with branching Leaves, and twisted Pods.

7. ACACIA *arborea major spinosa, pinnis quatuor majoribus subrotundis, filiquis variegatis intortis.* Sloan. Cat.

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Plant. Jam. Large four-leav'd Acacia, with twisted Pods.

8. ACACIA Americana *frutescens non aculeata, flore purpureo.* Plum. Cat. Shrubby American Acacia, without Thorns, and a purple Flower.

9. ACACIA *non spinosa, flore albo, staminibus longis; foliorum pinnis latiusculis, glabris & auritis.* Houst. Acacia without Thorns, having white Flowers, with long Filaments, and broad smooth Leaves.

10. ACACIA *humilis, non spinosa, foliis subtus incanis, florum staminibus longis rubentibus.* Houst. Dwarf Acacia without Thorns, having red Flowers with long Filaments.

11. ACACIA Americana, *non spinosa, flore purpureo, staminibus longissimis, filiquis planis villosis, pinnis foliorum tenuissimis.* Houst. American Acacia with Thorns, having purple Flowers, with very long Filaments, flat hairy Pods, and very narrow Leaves.

12. ACACIA *spinosa, foliorum pinnis tenuissimis glabris, floribus globosis luteis, spinis longissimis.* Houst. Prickly Acacia, with very narrow smooth Leaves, round yellow Flowers, and very long Thorns.

13. ACACIA *non spinosa, flore albo, foliorum pinnis latiusculis glabris, filiquis longis planis.* Houst. White flowering Acacia without Thorns, having broad smooth Leaves, and long flat Pods.

14. ACACIA *non spinosa, tenuifolia, villosa, floribus globosis albis, filiquis brevibus hirsutis.* Houst. Narrow-leav'd hairy Acacia without Thorns, having round white Flowers, and short hairy Pods.

15. ACACIA *non spinosa, latiore folio villosa, floribus globosis albis, filiquis brevibus hirsutis.* Houst. Broad-leav'd hairy Acacia, having round white Flowers, and short hairy Pods.

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16. *ACACIA non spinosa, floribus globosis albis, foliorum pinnis tenuissimis glabris; siliquis ad singula granumia. Houst.* Acacia without Thorns, having round white Flowers, with very narrow smooth Leaves, and jointed Pods.

17. *ACACIA spinosa tenuifolia, spinis singulis cornu bovinum per longitudinem fissum referentibus. Houst. Cat.* Acacia with single Thorns shaped like those of an Ox, and seem as if split through their Length.

18. *ACACIA spinosa tenuifolia, siliquis latis, spinis minimis recurvis solitariis. Houst. Cat.* Prickly narrow-leav'd Acacia, with broad Pods, and small recurved Spines, which come out single.

19. *ACACIA spinosa tenuifolia, floribus spicatis luteis, siliquis longissimis compressis flavis. Houst. Cat.* Prickly narrow-leav'd Acacia, with yellow spiked Flowers, and broad compressed Pods, which are yellow.

20. *ACACIA Americana cornigera, spinis crassioribus & nigricantibus.* Horned American Acacia, with very thick black Spines.

21. *ACACIA non spinosa tenuifolia villosa, siliquis latis intortis.* Smooth narrow-leav'd hoary Acacia, with broad twisted Pods.

22. *ACACIA Americana tetraphylla & spinosa, floribus globosis, staminibus florum longis rubentibus.* Prickly four-leav'd Acacia, with globous Flowers, having long red Stamina.

23. *ACACIA Americana, faginis foliis, tetraphylla, flosculis staminosis in spicam depositis. Pluk. Amalth. 4.* Four-leav'd American Acacia, with staminous Flowers disposed in Spikes.

24. *ACACIA non spinosa, siliquis latis compressis, pinnis foliorum latiusculis glabris. Houst. Cat.* Smooth Acacia, with broad compressed Pods,

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and smooth broad *Pinnæ* to the Leaves.

The first of these Acacia's Dr. *Plukenet* mentions to have been raised in the Garden of the Bishop of London at *Fulham*, about the Year 1698. since which time it hath been raised in great Plenty in several Gardens near London, where there are several very large Trees. This Sort hath produced Flowers in the Physic-garden at *Chelsea*, which are very minute, and of an herbaceous Colour; and in the Year 1729. it produced ripe Fruit in the Garden of the Bishop of London at *Fulham*. The Seeds of this Tree are frequently brought over from *Virginia* and *Carolina*, by the Name of Locust, which, I suppose, is a general Name for most Trees which produce Pods, in which is contained a sweetish Pulp, surrounding the Seeds.

The second Sort is very like, in the Appearance of the Leaves, to the first: but, in some of the Plants which have been raised in *England*, there is a very great Difference in their Spines; some of them having extreme long Thorns, with smaller growing out of them, and others have very few and small Spines. The Seeds of this Tree were sent from *Carolina* by Mr. *Catesby* in the Year 1724. where he found it growing in a watry Situation. This Sort has short Pods, containing but one Seed in each; whereas the first Sort has Pods near two Feet in Length, each containing several Seeds.

The third Sort is the Tree from whence the true *Succus Acaciæ* is taken; which, although mentioned as a Native of *Egypt*, yet is also found in divers Parts of *America*; from whence the Seeds of this Tree have been sent into *England*, which have

have been raised in several Gardens near *London*.

The fourth Sort is the most common Kind in *Jamaica* and *Barbados*; and the other warm Parts of *America*; and hath, for the Sweetness of its Flowers, been dispersed through most Parts of *Europe*; which, altho' a Native of the warmer Parts of the *Indies*, yet hath been made familiar to the *Italian* Gardens; and is cultivated in great Plenty in *Portugal* and *Spain*.

The fifth Sort is, at present, very rare in *England*, and only to be found in some curious Gardens. This Tree produces its Spines by Pairs, which are extreme large and crooked, and of a whitish Colour; but I don't remember ever to have seen this Sort flower.

The twentieth Sort is of this kind; but differs from it in having short thick black Spines, which seldom exceed an Inch in Length; whereas the Thorns of the other Sort are often four or five, and variously twisted, and are very white. There are two Sorts of this, one with round, and the other with long Flowers, which also differ in their Leaves. The Pods of these Sorts abound with a sweet Pulp, which draws the Insects to feed upon it, whereby the Seeds are generally destroyed; so that it is very rare to find any intire Pods upon the Trees in the native Places of their Growth.

The sixth Sort was brought from the *Bahama Islands* by Mr. *Catesby*, Anno 1726. The Seeds of this Plant (which are flat, and one half of a beautiful red Colour, the other half a deep black) grow in long twisted Pods; which, when the Seeds are ripe, open on one Side, and let the Seeds out; which, hanging by a small Thread for some time out of the Pods, make a very agreeable Pro-

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spect. The Leaves of this Tree branch out and divide into many Ramifications: the Lobes are roundish, and placed in a very regular Order: The Flowers have not as yet appeared in *England*; but from a Painting done from the Plant in the Country, they seem to be very beautiful.

The seventh Sort was brought from *Jamaica*, and is growing in the Physic-garden at *Chelsea*: this hath four large Lobes to each Leaf; the Spines are short, stiff, and crooked, and the Seeds grow in twisted Pods. This Plant is well described in Sir *Hans Sloane's Natural History of Jamaica*.

The seventeen last-mention'd Sorts were collected by the late ingenious Dr. *William Houstoun*, in *Jamaica*, at *Vera Cruz*, and *Campechy*, who sent the Seeds of most of them into *Europe*, many of which are now growing in the *Physic-garden* at *Chelsea*, where some of them have produced Flowers, and the thirteenth Sort has produced Pods.

These seventeen Sorts are tender, and must be placed in Stoves in the Winter; and in Summer must be but a short time exposed to the open Air, and have a warm Situation.

These Trees are all propagated by sowing their Seeds on an Hot-bed in the Spring of the Year, which will in a short time appear above-ground, when you should prepare another fresh Hot bed, which, if intended for such Sorts as are very tender, should be pretty warm; but if for such as are brought from the Northern Parts of *America*, should be of a very moderate Heat; then you should be provided with a Quantity of small Halfpeny Pots, which should be fill'd with fresh light sandy Earth: these should be plunged into the Hot-bed; and as soon as the Earth in the Pots is warm, which will

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will be in about 24 Hours, you should carefully take up the young Plants out of the first Hot-bed, planting a single one in the Middle of each of these Pots, giving them a gentle Watering to settle the Earth to their Roots, and screening them with Mats over the Glasses from the Heat of the Sun, until they have taken Root; after which time you must give them Air, by raising the Glasses, in proportion to the Heat of the Weather, or to the Constitution of the Plants.

The first and second Sorts, being very hardy, may have a greater Proportion of Air, and by Midsummer should have the Glasses intirely taken off, that they may be hardened to endure the open Air by degrees: these, the first and second Winter, should be sheltered in a common Hot-bed-frame, until they are grown woody; after which time (in the Spring of the Year) they may be turned out of the Pots into the open Ground, where they are intended to remain; which should be in Wilderness-quarters, or Clumps of Trees, where they may be sheltered from the Fury of violent Winds, otherwise they will be very subject to be split thereby.

When these Trees have arisen to the Height of eight or ten Feet, they will then make very strong and vigorous Shoots; which should be now-and-then shortened, that the Heads of the Trees may be closer; and their Branches by this means will be much less liable to break with Winds, than when they are permitted to remain at full Length, and the Trees will be much the handsomer.

These Plants delight in a loose Soil, rather moist than dry, especially the second Sort, in which they will shoot very vigorously.

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The fourth, fifth, and eighth Sorts are tenderer, and should be kept in the Hot-beds till *July*, when they may be exposed to the Air by degrees, tho' the Glasses should not be quite removed from them the first Year. These must be set in a Stove the first and second Winters, while young, as being then pretty tender; but when they are grown woody, will endure in a good Green-house very well, and may be exposed in Summer-time, with Oranges, Myrtles, &c.

The third, sixth, and seventh Sorts are very tender (especially while young), and therefore should have an Hot-bed of Tanners Bark; and as they increase in Bulk, should be shifted into bigger Pots: the Earth for these should be a little lighter, and more inclined to a Sand, than for the other Sorts; but never give them too big Pots. The third Sort, being the hardiest of the three, will, when grown to be woody, stand in a common Stove, amongst Guava's, Viburnums, &c. and in Summer-time, in warm Weather, may enjoy the open free Air: but the sixth and seventh Sorts must have a Bark-stove in Winter, nor should they be exposed to the open Air in Summer, at least for four or five Years, until they are grown very woody; for they are very tender, and with great Difficulty preserved in this Climate. These should have very little Water in Winter, but in Summer-time will require frequent Refreshings; tho' at that Season it should not be given them in great Quantities at one time. The sixth Sort is a very beautiful Tree. The seventh sheds its Leaves just before the new ones come on; so that it is naked of Leaves about a Month or six Weeks in the Spring of the Year; which has occasioned some People

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People to throw them away as dead, when, if they had let them remain, they would have come out fresh again.

The three Sorts of horned *Acacia's* are very often destitute of Leaves for two or three Months, appearing to have no Life; but they will put out fresh Leaves toward Autumn, which is commonly the Season when they are most vigorous. These should be exposed in the Summer-season, in a Place defended from strong Winds; and in Winter require a moderate Degree of Warmth.

All the other Sorts here mentioned are propagated by Seeds, which, seldom ripening in this Country, must be procured from *America*; particularly at *Campechy*, where there are great Variety of this Tree, many of which have been hitherto unknown to the Writers on Botany. But in bringing over the Seeds of these Trees, they should be taken out of the Pods when gathered, and put up in Papers; and should have Tobacco, or some other noxious Herb, put between the Papers, to keep off Insects, otherwise the Seeds will be eaten and destroyed before they arrive in *England*: for the Insects deposit their Eggs in small Punctures which they make in the Pods; and as these are soon hatched, they immediately attack the Seeds for Food, and eat Holes thro' them, by which they are spoiled from growing. This has often happened to Seeds, which have been sent me from *America*.

ACACIA Germanorum. Vide Prunus Sylvestris.

ACACIA Virginiana. Vide Robenia.

ACAJOU, or Cajou. The Cashew-nut.

The Characters are;

The Cup of the Flower (which is

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produced at the Extremity of a Foot-stalk) is oblong and quinquesid: the Flower consists of one Leaf, which is divided into five long narrow Segments: in the Bottom of the Calyx is the Ovary, which becomes a soft pear-shaped Fruit; upon the Apex of which grows a Vessel, in which is contained one kidney-shaped Seed.

There is but one Species of this Plant yet known; which is,

ACAJOU. Thev. Franc. Antart. The Cashew-nut.

This Tree is very common in many Parts of *America*, particularly in *Jamaica* and *Barbados*, where it grows to be a very large Tree; but with us in *England* (notwithstanding all the Care it can possibly have) will rarely stand through our Winters; or if it is by Art preserved in very warm Stoves, yet is so very slow of Growth, especially after the first Year, as scarcely to be discerned in its Progress.

The Seeds of this Tree, if sown in a good Hot-bed, in the Spring of the Year, will, in a short time, appear above-ground in so strong a manner, that any one, who hath not been conversant with this Plant, would imagine it to be of a very quick Growth: for I have known these Plants, in two Months from the time of sowing their Seeds, above six Inches in Height, and very strong; which in about two Months time more have been at a Stand; from which time they have scarcely advanced two Inches in a Year, with all the Art and Skill which could be used about them: nor have I ever seen a Plant of this Kind above two Feet high, though I have had some of them that have been above three or four Years old. They are also in their own Country of very slow Growth, rarely producing either Flowers or Fruits until they are fif-

teen or sixteen Years old from Seeds : so that the Inhabitants of the *West-Indies* plant them from large Branches taken from the old Trees ; which with them take Root very well, and in two Years time produce Fruits.

The Plants of this Sort, which are raised in *England*, should be planted in small Pots filled with fresh light rich Earth, and must be plunged into an Hot-bed of Tanners Bark, and often refreshed with Water. These should be kept in Winter in a Bark-stove, amongst the tenderest Exotic Trees ; and should not be exposed to the open Air even in the hottest Season.

There is scarce any Tree which bears transplanting worse than this, even in the native Places of its Growth ; for the Roots are few and long, which, when cut, generally kill the Tree : so that when these Plants are shifted from one Pot to another, their Roots should not be cut or broken ; nor must they be often transplanted, or over-potted, which is sure Death to them : therefore the best Method is, to put one good Seed into each Halfpeny Pot, where the Plants may remain a Year, or more, without being removed ; and when they are transplanted into other Pots, the Ball of Earth should be preserved to their Roots as intire as possible. By this Method I have had the best Success with this Plant.

One Plant of this Kind flowered in the Garden of Sir *Charles Wager*, at *Parsons-Green* near *Fulham*, tho' not above two Years old ; but it soon after perish'd, without producing any Fruit.

ACANTHUS, *Branca Ursina*, or Bear's-breech.

The Characters are :

The Leaves are somewhat like those of the Thistle: the Flowers are labiated: the Under-lip of the Flower

is divided into three Segments, which in the Beginning is curl'd up in form of a short Tube : in the Place of the Upper-lip are produced the Stamina, surrounding the Ovary which support the Pointal: the Cup of the Flower is composed of Leaves which are prickly ; the upper Part of which is bent over like an Arch, and supplies the Defect of the Upper-lip of the Flower : the Fruit is of an oval Form, which is divided in the Middle into two Cells, each containing one single smooth Seed.

There are five Species of this Plant to be found in the Gardens of the Curious ; viz.

1. ACANTHUS *sativus*, vel *mollis Virgilii*. C. B. The smooth-leav'd Garden Bear's-breech.

2. ACANTHUS *aculeatus*. C. B. The prickly Bear's-breech.

3. ACANTHUS *rarioribus* & *brevioribus aculeis munitus*. Tourn. The middle Bear's-breech, with short Spines.

4. ACANTHUS *Lusitanicus*, *amplissimo folio lucido*. The Portugal Bear's-breech, with large shining Leaves.

5. ACANTHUS *orientalis humillimus*, *foliis pinnatis aculeatis*. Tourn. Cor. Dwarf Eastern Bear'sr eech, with prickly winged Leaves.

The first Sort is what is used in Medicine, and is supposed to be the *mollis Acanthus* of *Virgil*. The Leaves of this Plant are cut upon the Capitals of the *Corinthian* Pillars, and were formerly in great Esteem with the *Romans*.

They are all very pretty Varieties, and fit for large Gardens ; but should have a warm Situation, and a dry Soil. They are easily propagated, by parting the Roots in *February* or *March*, or by Seeds sown at the same time. The second and third Sorts are apt to creep at the Root ; therefore should have room, and must

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must not be planted amongst other Flowers, lest they overgrow and destroy them.

The fifth Sort of Bear's-breech was discovered by Dr. Tournefort in the *Levant*, who sent it to the Royal Garden at *Paris*. This may be propagated by Seeds, which should be sown on a Bed of light fresh Earth in the Spring of the Year; and when the Plants are come up, they should be carefully weeded, and in very dry Weather they should be watered, which will greatly promote the Growth of the Plants. In this Bed they may remain until the following Spring, when they should be carefully taken up, and transplanted where they are designed to remain, which should be in a warm Situation, and on a dry fresh Soil. These Plants should be allowed a great Share of room; for they are very apt to spread far; and their Leaves will grow to a great Size, when the Plants are strong; so that if any other Plants stand near them, they will be in Danger of suffering by being over-spread.

ACARNA. *Vide Cnicus.*

ACER, The Maple-tree.

The Characters are;

It hath jagged or angular Leaves: the Seeds grow two together in hard wing'd Vessels.

The Species are;

1. ACER majus, multis falso Platanus. *J. B.* The greater Maple, falsely called, The Sycamore-tree.

2. ACER majus, foliis eleganter variegatis. *Hort. Edin.* The greater Maple, with strip'd Leaves, commonly called, The strip'd Sycamore.

3. ACER campestre & minus. *C. B.* The common or lesser Maple.

4. ACER Virginianum, folio majore, subtus argenteo, supra viridi

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splendente. Pluk. Phyt. The Virginian flowering Maple.

5. ACER Americanum, folio majore, subtus argenteo, supra viridi splendente, floribus multis coccineis. The American flowering Maple, with larger Bunches of scarlet Flowers.

6. ACER maximum, foliis trifidis vel quinquefidis, Virginianum. *Pluk. Phyt.* The Virginian ash-leaved Maple.

7. ACER platanoides. *Munt.* The Norway Maple, with Plane-tree-leaves.

8. ACER platanoides, foliis eleganter variegatis. The strip'd Norway Maple.

9. ACER major, folio rotundiore minus laciniato, an Opalus Italarum. *Raii Hist.* The greater Maple, with Leaves less cut, called Opalus in Italy.

10. ACER trifolia. *C. B. P.* Three-leav'd Maple of Montpelier.

11. ACER Cretica. *P. Alp. Exot.* 9. Cretan Maple.

12. ACER Orientalis, hederæ folio. *T. Cor.* Eastern Maple, with an Ivy-leaf.

These Trees are easily propagated by sowing the Seeds soon after they are ripe, in an open Bed of common Earth, covering them about half an Inch thick with sandy light Earth: the Spring following they will appear above-ground, and, if kept clear from Weeds, will grow above a Foot high the first Summer: the Michaelmas following (if they are thick in the Seed-bed) you may take out a Part of them, and transplant into a Nursery, in Rows at three Feet Distance, and two Feet asunder in the Rows; in which Place they may remain three or four Years, when they will be large enough to plant out for good.

If the Seeds of any of the Sorts

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Maple are kept out of the Ground till Spring, they rarely come up the same Year, and many times do not grow; so that the surest Method of raising them is, to sow the Seeds as soon as possible when they are ripe; and if the Seeds are to be transported to any Distance, it will be proper to put them up in Sand, whereby their growing Quality will be preserved.

The first Sort is very proper to make Plantations near the Sea, or to shelter such Plantations of Trees as are too nearly situated thereto. This Tree thrives, and resists the Spray which is usually blown from the Sea, better than most other Trees do. The variegated Sort is also raised from Seeds of the same Kind: most of the Plants so raised will be as finely striped as the old Plant from whence the Seeds were taken, which is not common to many other variegated Plants.

The common Maple is too well known to need any particular Account, it being a very common Tree in Hedge-rows in most Parts of *England*: it is raised in the same manner with the former.

The *Virginian* flowering Maple was raised from Seeds, which were brought from *Virginia* many Years since by Mr. *John Tradescant*, in his Garden at *South-Lambeth*, near *Vauxhall*; and since, in the Gardens of the Bishop of *London* at *Fulham*, where it has flower'd for several Years, and produces ripe Seeds, from whence several Trees have been raised: it may be also propagated by laying down the young Branches early in the Spring, giving them a little Slit at a Joint; by which means they will have taken sufficient Root by that time Twelve months, to be transplanted out. They require a Situation a little defended from the

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North-east Winds, especially while young: and it delights in a moist light Soil, in which it will thrive much better than in dry Ground, and will produce more Flowers, and better Seeds. This Tree commonly flowers in the Beginning of *April*, and the Seeds are ripe in six Weeks, or two Months after; at which time they should be sown; for they are very apt to perish, if kept long out of the Ground.

The other flowering Maple was sent from *America* to Sir *Charles Wager*, and flourished several Years in his curious Garden at *Parsons-Green* near *Fulham*. The Flowers of this Kind come out in very large Clusters, and surround the younger Branches, so as to appear at a small Distance covered with them. This Tree is now become pretty plenty in some of the curious Nurseries near *London*, so that the former Sort is not so much esteemed, being less beautiful.

The ash-leav'd Maple is a very strong-shooting Tree, and is in *Virginia* one of the largest Trees of this Kind. It must be planted in Places not too much exposed to violent Winds, it being subject to split therewith. This Tree ripens Seeds very well in *England*, by which means it is easily propagated, or by laying down the Branches (as directed for the flowering Maple).

The *Norway* Maple grows with us to a very large Size, equalling the other Maple for Bulk; and, I believe, will answer the same Purpose, for sheltering Plantations near the Sea; and is by far the handsomer Tree near an Habitation: for the greater Maple is very subject to exude a sweet clammy Juice from the Pores of the Leaves, which lodges upon the Surfaces thereof, and thereby entices vast Quantities of Insects, which

which eat the Leaves full of Holes, and render them very unsightly.

The *Norway* Maple has a milky sharp Juice, so that few Insects care to prey thereon; by which means the Leaves are seldom eaten or defaced. This Tree is also raised by Seeds, of which it affords great Quantities; which rise and grow equally as well as the common Sort.

It may also be propagated by Cuttings, which, if planted in the Autumn, soon after the Leaves are fallen, will take Root as well as the common Willow: so that this being the most expeditious Method of propagating this Tree, it is chiefly practised by skilful Persons.

The variegated Kind is propagated by inoculating a Bud of the strip'd Kind into one of the plain Sort, though I am not at present sure whether it will take upon any other Sort of Maple, not having made the Experiment; but I believe it can scarce fail. Most, if not all the other Sorts of Maples, take very well upon each other.

There is another Sort of Maple, which is very common in *Virginia*, and is known by the Name of the *Sugar Maple*; from which Tree the Inhabitants of that Country make a very good Sort of Sugar, and in large Quantities; though I am of Opinion, that the People make Sugar from more than one Sort of Maple. Mr. Ray, and Dr. Lister, prepared a tolerable good Sort of Sugar from our greater Maple, by tapping some of the Trees in their bleeding Season; and I have observed, upon cutting off a Branch of the ash-leav'd Maple in *February*, a great Quantity of a very sweet Juice hath flow'd out for several Days together.

This Sort of Maple is so like the *Norway* Maple in Leaf, as scarce to

be distinguished from it; and is equally hardy, but doth not grow so fast: the young Plants, when first raised from Seeds, are very subject to be attacked by Insects, which, if not destroyed soon, will eat up the Plants: and these Insects are in greater Plenty upon the Plants when they are exposed to the Sun, than in a shady Situation.

The ninth Sort of Maple is very common in most Parts of *Italy*, but particularly about *Rome*, where it is one of the largest Trees of that Country, and is esteemed for the Size of the Leaves, which are large, affording a great Shade; so that these Trees are frequently planted by the Sides of Roads, and near Habitations. In *England* this Tree is very rarely to be met with, although it is hardy enough to bear the open Air; but as the Seeds of this Tree have not been brought over to *England* till lately, there are no large Plants in the *English* Gardens at present.

The tenth Sort is very common about *Montpelier*, and the South Parts of *France*; but is at present very rare in the *English* Gardens.

The eleventh and twelfth Sorts grow common in the Islands of the *Archipelago*, from whence Doctor *Tournefort* sent their Seeds to the Royal Garden at *Paris*, where they are now growing; but these are very rare in *England*. These three Sorts may be propagated by Seeds, in the same manner as is directed for the other Kinds, and are all hardy enough to bear the open Air in *England*.

The Timber of the common Maple is far superior to the Beech for all Uses of the Turner, particularly Dishes, Cups, Trenchers, and Bowls; and when it abounds with Knots (as it very often doth), it is highly

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esteemed by the Joiners for Inlayings, &c. and also, for the Lightness of the Wood, it is often employ'd by those that make musical Instruments; and for the Whiteness of its Wood, is in great Request for Tables, &c.

ACETOSA, Sorrel.

The Characters are;

The Plant agrees with the Dock in all its Characters, and only differs in having an acid Taste.

The Species are;

1. ACETOSA pratensis. C. B. The common or Meadow Sorrel.

2. ACETOSA Muscovitica sterilis. M. H. The Northern barren Sorrel.

3. ACETOSA rotundifolia hortensis. C. B. The round-leav'd or French Sorrel.

4. ACETOSA foliis crispis. C. B. P. Sorrel with curled Leaves.

5. ACETOSA montana maxima. C. B. P. Greatest mountain Sorrel.

6. ACETOSA Pyrenaica, angustifolium & longissimum folio. Schol. Bot. Pyrenean Sorrel, with very long narrow Leaves.

7. ACETOSA montana, lato ari rotundo folio. Bocc. Mus. Mountain Sorrel, with a broad Arum-leaf.

8. ACETOSA montana pumila, fagopyri folio. Bocc. Mus. Dwarf mountain Sorrel, with a Buckwheat-leaf.

9. ACETOSA tuberosa radice. C. B. P. Sorrel with a tuberose Root.

10. ACETOSA calthæ folio, peregrina. C. B. P. Foreign Sorrel, with a Marigold-leaf.

11. ACETOSA lucida, foliis atriplicis. H. R. Par. Shining Sorrel, with Orach-leaves.

12. ACETOSA major Italica, semine rotundiore & glomerato. H. R. Par. Greater Italian Sorrel, with a round glomerated Seed.

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13. ACETOSA arvensis lanceolata. C. B. P. 124. Sheeps Sorrel.

14. ACETOSA lanceolata angustifolia elatior. Mor. Hist. Taller narrow-leav'd spear-pointed Sorrel.

15. ACETOSA ocymi folio, Neapolitana. C. B. P. Neapolitan Sorrel, with a Basil-leaf.

16. ACETOSA Americana, foliis longissimis pediculis donatis. C. B. P. American Sorrel, with Leaves growing on long Pedicles.

17. ACETOSA rotundifolia repens Eboracensis, folio in medio deliquium patiente. Mor. Hist. Creeping round-leav'd Sorrel of the North.

18. ACETOSA arborescens, subrotundo folio, ex Insulis Fortunatis. Pluk. Almag. Shrubby Sorrel, with a round Leaf, from the Fortunate Islands.

The first of these Sorts, tho' but small in the Fields, yet, when sown in Gardens, will produce fair large Leaves, and is the same Sort which is commonly cultivated in Gardens. It must be sown early in the Spring, in a shady moist Border; and if the Plants are afterward planted out in another shady Border, four or six Inches square, it will produce larger Leaves, and continue longer. This is the common Sorrel used in Medicine; but the Northern barren Sorrel is preferred to it in the Kitchen-garden, because it rarely runs to Seed, but is increased by parting the Roots either in Spring or Autumn, and is fit for Use all the Year round.

The round-leav'd (or French) Sorrel is the most grateful Acid, and is prefer'd to the other two Sorts for Kitchen-use: it is also a medicinal Plant, and should not be wanting in any good Garden: it is a great Runner at the Root, by which means it is easily propagated, and must be planted at a large Distance, a Foot square

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square at least: it will agree better with an open Situation than the other two Sorts.

The fourth Sort of Sorrel is a Variety from the common Sort, which often arises from the same Seeds, as doth also that with white Flowers; so that they do not deserve the Notice which the Writers on Botany have taken of them.

The fifth, sixth, seventh, eighth, ninth, tenth, eleventh, and twelfth Sorts are all of them very hardy Plants, and may be propagated by Seeds, in the same manner as the common Sort; with this Difference only, of allowing the large Sorts more room; for the sixth and seventh Sorts grow very large, and therefore require to be left a Foot asunder, or more. The Roots abide several Years, and may be parted at *Michaelmas* to propagate their Kinds; tho' they all succeed much better by Seeds, which they usually perfect in this Country.

The thirteenth and fourteenth Sorts grow wild on dry Banks, and on the Sides of Gravel-pits, in divers Parts of *England*, and are rarely admitted to have Place in a Garden. These multiply exceedingly by their Roots, which creep very far underground; so that they should not be suffered to grow near other Plants. The thirteenth Sort is placed in the Catalogue of Simples, in the College-Dispensatory; but, I believe, is seldom ordered in Medicine.

The fifteenth and sixteenth Sorts are annual, and are rarely cultivated, except in Botanic Gardens, for the sake of Variety: these may be propagated by sowing their Seed on a Bed of light Earth in *March*; but they do not bear transplanting well; therefore they should always be sown where they are designed to remain. In *June* these Plants will

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flower, and their Seeds will ripen in *August*.

The seventeenth Sort grows wild in *Yorkshire*, and several other Northern Counties of *England* and *Scotland*, from whence it is often procured for the sake of Variety; but it doth not thrive well in the Southern Parts: it should have a shady Situation, and a moist strong Soil.

The eighteenth Sort will grow to the Height of twelve or fourteen Feet, and become woody, so as to have the Appearance of a Tree. This is preserved in Green-houses in Winter, by Persons who are curious in collecting Exotic Plants. It may be easily propagated by planting Cuttings in a Bed of light Earth, during any of the Summer-months, observing to water and shade them until they have taken Root, when they should be taken up, and planted in Pots filled with fresh Earth, and placed in a shady Situation, until they have taken new Root; after which time they may be placed amongst Myrtles, Geraniums, and other hardy Exotic Plants, till *October*, when they should be removed into the Green-house, where they should be placed to have as much free Air as possible in mild Weather; for otherwise they will become very weak and unsightly.

ACETOSELIA. *Vide Oxys.*

ACHILLÆA; *i. e.* Millefolium.

ACINOS, Stone or Wild Basil.

The Characters are;

It hath Leaves like those of the lesser Basil: the Cup of the Flower is oblong and furrow'd: the Flowers are produced in Bunches, on the Top of little Footstalks, which arise from between the Footstalk of the Leaf, and the Stalk of the Plants, in which it differs from Serpyllum.

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The Species are ;

1. *ACINOS multis.* J. B. Wild Basil.

2. *ACINI pulchra species.* J. B. Broad-leav'd Austrian Wild Basil.

The first of these Plants is very common on dry arable Land in many Parts of England, but especially on gravelly or chalky Hills : it is an annual Plant, sowing itself, and rising again early in the Spring. This is not cultivated in Gardens, nor doth it care to grow on a good Soil ; but it may be propagated in a dry poor Soil, by sowing the Seeds as soon as they are ripe. This Plant hath been brought to the Markets by the Herb-women for the Mountain-poley.

The second Sort is preserved in curious Botanic Gardens ; but is a Plant of no great Beauty or Use.

ACONITUM, Wolf's-bane.

The Characters are ;

It hath circumscrib'd roundish divided Leaves : the Flowers consist of four Leaves, which are shaped like a Monk's Hood : each of these Flowers are succeeded by three or more Pods, which contain several rough Seeds : the most Part of these Species are deadly Poison.

The Species are ;

1. *ACONITUM lycoctonum luteum.* C. B. The yellow poisonous Wolf's-bane.

2. *ACONITUM luteum majus, ampliore caule, amplioribusque foliis.* Dod. The largest yellow Wolf's-bane.

3. *ACONITUM caeruleum, five napellus 2.* C. B. The large blue Wolf's-bane, or Monk's-hood.

4. *ACONITUM salutariferum, five anthora.* C. B. The wholesome Wolf's-bane.

5. *ACONITUM pyramidale multiflorum.* H. R. Par. Large blue pyramidal Wolf's-bane, or Monk's-hood.

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6. *ACONITUM caeruleo-purpureum, flore maximo, five napellus 4.* C. B. P. Wolf's-bane with a very large blue Flower.

7. *ACONITUM seu napellus 1. flore ex caeruleo & albo variegato.* C. B. P. Wolf's-bane with blue and white strip'd Flowers.

8. *ACONITUM caeruleum minus, five napellus minor.* C. B. P. Lesser Wolf's-bane, with blue Flowers.

9. *ACONITUM coma inflexa, foliis angustioribus.* C. B. P. 283. Narrow-leav'd Wolf's-bane, with inflex'd Heads.

10. *ACONITUM coma inflexa, foliis latioribus.* Tourn. Broad-leav'd Wolf's-bane, with inflex'd Heads.

11. *ACONITUM inflexa coma, maximum.* C. B. P. Wolf's-bane with the largest inflex'd Heads.

12. *ACONITUM seu napellus 1. flore roseo.* C. B. P. Wolf's-bane with a rose-colour'd Flower.

13. *ACONITUM seu napellus 1. flore albo.* C. B. P. Wolf's-bane with a white Flower.

14. *ACONITUM seu napellus 1. flore ex caeruleo & albo variegato.* C. B. P. Wolf's-bane with a Flower variegated from blue to white.

15. *ACONITUM violaceum, seu napellus 2.* C. B. P. Wolf's-bane with a violet-coloured Flower.

16. *ACONITUM purpureum, seu napellus 3.* C. B. P. Wolf's-bane with a purple Flower.

17. *ACONITUM caeruleum minus, five napellus minor.* C. B. P. Lesser blue Aconite or Wolf's-bane.

18. *ACONITUM caeruleo-purpureum, flore maximo, five napellus 4.* C. B. P. Wolf's-bane with a very large purple-blue Flower.

19. *ACONITUM lycoctonum Orientale, flore magno albo.* T. Cor. Eastern Wolf's-bane, with a large white Flower.

Most of these Kinds of Wolf's-bane

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bane are Natives of the *Alps* or *Pyrenean* Mountains, where (it is reported) the Huntsmen, who hunt the Wolves, dip their Arrows into the Juice of these Plants, which renders the Wounds given with these Arrows mortal. They are most of them too noxious to have a Place in Gardens which are much frequented by Children, there having been several Persons much injured, and some have lost their Lives, by eating of this Plant. A late Instance of this hath been publish'd in the *Philosophical Transactions*, where there is an Account of some unskilful Person gathering some Roots of this (early in the Spring, when the Plant was newly risen above-ground) instead of Celery; and putting them into a Sallad, two Persons were poisoned therewith; one of whom was with great Difficulty saved.

The yellow Sorts are less common, and are only preserved in the Gardens of the Curious: they flower in *June* and *July*, and are increased by parting the Roots in Autumn; but must have a more open Exposure than the blue.

The wholesome Kind is rarely to be met with in the *English* Gardens, altho' it is equally as hardy as any of the other Sorts: this is increased as the other Sorts; but requires a looser Soil than they do: this is sometimes used in Physic, and is supposed to be an Antidote to the Poison of the Wolf's bane.

The fifth Sort of Wolf's-bane is very common in almost all old Gardens, and is usually known by the Name of Monk's-hood, the Flower resembling a Frier's Cowl, from whence it had that Name: the Flowers of this Kind are commonly brought to Market in *May*, to furnish Flower-pots for Chimneys. The Roots of this Plant increase abundantly,

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soon over-running a large Piece of Ground; therefore should be confined in some abject Part of the Garden, or planted under Trees, it being very hardy, and growing in almost every Soil or Situation.

All these Kinds of Wolf's-bane are great Ornaments to a large Garden; and many of them will thrive in the greatest Shade, and on the poorest Soil, where few other Plants will grow, especially the fifth, eighth, twelfth, fifteenth, sixteenth, and seventeenth Sorts, which are extremely hardy, and greatly multiply by the Root; so that a few Plants of each Sort will, in a few Years, produce a great Stock. The best time to transplant these Roots is at *Michaelmas*, when the Roots are in an unactive State; for soon after that time they begin to put out new Roots, and early in the Spring the Plants will appear above-ground; when it will be too late to transplant them; for although they will often grow if removed at that Season, yet they rarely flower the same Year, and will make very little Increase at the Root.

Some of the Sorts with blue Flowers will grow to the Height of three or four Feet; but those with yellow Flowers usually grow much higher; and the Eastern Kind with white Flowers, I have seen upwards of six Feet high; but this Sort is very rare in *Europe*, and only to be found in some curious Gardens at present.

The fifth Sort commonly begins to flower in *April*, and continues through *May*; and this is succeeded by some of the other Sorts, so that there is a continual Succession of them until *August*, and in a cool Season sometimes later.

ACONITUM HYEMALE. *Vide* Helleborus.

ACORUS,

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ACORUS, *Calamus aromaticus*, Sweet Rush.

The Characters are;

The Flowers grow in a Spike, shaped like a Finger: each Flower has six Petals, which are obtuse and concave, with six Stamina, which are longer than the Petals: in the Middle is placed the Style, which afterward becomes a short-triangular Pod, inclosing small Seeds.

We have but one Species of this Plant; which is,

ACORUS verus. C. B. The true Acorus of the Shops.

This Plant grows in standing Waters which are shallow, and is found wild in some Parts of England; particularly in Norfolk, and also near Uxbridge in Middlesex. The Leaves of this Plant, when broken, send forth a strong aromatic Scent; but the Roots, which are much stronger, have been long used in Medicine. This may be transplanted into a Garden, where, if the Ground is moist, it will grow very well; but never produces its Spike, unless it grows in the Water. It loves an open Situation, and will not thrive well under the Shade of Trees.

ACRIVIOLA, *Indian Crefs.*

The Characters are;

The Leaves are round, umbelicated, and placed alternately: the Stalks are trailing: the Cup of the Flower is quinquefid: the Flowers consist of five Leaves, which are in form of a Violet: the Seeds are roundish and rough, three of them succeeding each Flower.

There are five Varieties of this Plant in the English Gardens; viz.

1. **ACRIVIOLA**. *Frid. Cæs. T. 935.* The lesser Indian Crefs.

2. **ACRIVIOLA** *flore sulphureo.* Boerb. The lesser yellow Indian Crefs.

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3. **ACRIVIOLA** *maxima odorata,* Boerb. The great Indian Crefs.

4. **ACRIVIOLA** *maxima odorata, flore sulphureo.* Boerb. The great yellow Indian Crefs.

5. **ACRIVIOLA** *maxima odorata, flore pleno.* The great double Nasturtium, or Indian Crefs.

The four first Sorts are commonly sown in March or April, in a good Soil, and warm Situation: they are great Climbers, and should have an Hedge or Palisado to run upon, to prevent their lying upon the Ground, which is apt to rot them: they begin to flower in June or July, and continue till the Frost comes, which soon destroys the whole Plant, unless shelter'd therefrom. The Flowers are very good in Sallads, and are much in Use to garnish Dishes: the unripe Seeds afford a warm agreeable Pickle.

The double Sort, producing no Seeds, is only increased by planting Cuttings in any of the Summer-months, and must be carefully preserved in Winter, it being very subject to rot, if kept too close, or if it hath too much Water in Winter; but must be intirely kept from Frosts.

This Plant, if confined in Pots filled with poor Soil, will be less subject to ramble, and much more productive of Flowers; whereas if it is planted in the full Ground, or potted in a rich Mould, it will extend its Branches to a great Distance, and the Flowers will be very thinly placed upon the Plant; so that the greatest Beauty of the Plant, which consists in the Number of its Flowers, is lost. The Flowers of this Kind are much better to garnish Dishes than those of the single; but, for Use, the single is preferable to this in Sallads, being of a warmer Taste;

as is observed of all single Flowers, that they are preferable to the double of the same Kinds, for medicinal or other Uses, as being much stronger in Smell and Taste; for the Multiplicity of Petals deprive the Flowers of the Organs of Generation, in which is contained the Essence of the Flower.

ADHATODA, The Malabar Nut.

The Characters are ;

The Leaves grow opposite: the Cup of the Flower is oblong, and consists of one Leaf: the Flower is monopetalous, of an anomalous Figure, and consists of two Lips: the uppermost is crooked, and is raised in form of an Arch: the under Lip is divided into three Segments, and hangs downward: the Ovarium becomes the Fruit, which is in form of a Club, and is divided into two Cells, in which are contained flat heart-shaped Seeds.

There are but two Species of this Plant known at present; which are,

1. ADHATODA *Zeylanensium*. H. L. The common Malabar Nut.

2. ADHATODA *Indica*, folio saglino, flore albo. Boerb. The Willow-leav'd Malabar Nut; commonly called, The Snap-tree.

The first Sort is pretty common in curious Gardens, where there are some old Plants which are ten Feet high: this will live in a good Greenhouse with Orange-trees and Myrtles, and may be removed into the open Air at the same time with those, being equally hardy. This Tree requires a good Soil, and must have Plenty of Water, especially in the Summer-time. It is propagated by Layers, which should be laid any time in Summer, and will be rooted by the following Spring, fit to transplant into Pots: when this is done, they must be watered and shaded

until they are rooted again, and may then be treated as the old Plants. This Sort often produces Flowers in June, which grow in Spikes from the Tops of the Shoots.

The second Sort is more tender, and requires a moderate Stove in Winter, otherwise it can rarely be preserved. This Sort is easily propagated by Cuttings in May, June, or July: the Cuttings should be planted in Pots filled with rich Mould, and plunged into a moderate Hot-bed of Tanners Bark, observing to shade them until they have taken Root; afterward they may be removed each into a separate Pot fill'd with rich Earth, and may remain abroad in a sheltered Situation until Michaelmas, when they must be removed into the Stove. These Plants require much Water, especially in Summer.

ADIANTHUM, Maidenhair.

The Species are ;

1. ADIANTHUM *foliis coriandri*. C. B. P. True Maidenhair, with Leaves like Coriander.

2. ADIANTHUM *Scoticum majus*, *coriandri folio*. Tourn. Greater Scotch Maidenhair, with a Coriander-leaf.

3. ADIANTHUM *Scoticum minus*, *folio obtuso, altius inciso*. Tourn. Lesser Scotch Maidenhair, with an obtuse Leaf, deeply cut in.

4. ADIANTHUM *Americanum*. Cornut. American Maidenhair of Cornutus.

The first Sort is a Native of the South Parts of France, and of the Mediterranean, where it grows on Rocks, and old Ruins, from whence it is brought into England, for medicinal Use; tho' the smaller Leaves of Fern are sometimes imposed on ignorant Persons, by those who supply the Markets with Herbs; but as the true Sort is not to be obtained fresh in England, the surer way

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way is to get it from some knowing Druggist, who imports it from abroad.

The second and third Sorts have been found growing on the Rocks, in the North of *Scotland*: but as they are not commonly found, they have not been introduced into the *London* Shops.

The fourth Sort is a Native of *America*, from whence it was originally brought into *Europe*, and is preserved by curious Persons in their Gardens. This has been formerly preserved in Stoves in *England*, as a very tender Plant; but it is found to be very hardy.

There are many other Sorts of this Plant in the *East* and *West-Indies*, from whence we have received dried Samples of near thirty Sorts; but as they are Plants which are not cultivated in the *European* Gardens, I shall not enumerate them here.

ADONIS, or FLOS ADONIS, Bird's-eye, or Pheasant's-eye.

The Characters are;

The Leaves are like Fennel, or Chamomile: the Flowers consist of many Leaves, which are expanded in form of a Rose: the Seeds are collected into oblong Heads.

There are but four Varieties of this Plant to be met with in the *English* Gardens; viz.

1. ADONIS *hortensis*, flore minore atro-rubente. C. B. The common red Bird's-eye.

2. ADONIS *sylvestris*, flore luteo, foliis longioribus. C. B. The long-leav'd yellow Bird's-eye.

3. ADONIS *sylvestris*, flore phæniceo, ejusque foliis longioribus. C. B. P. Adonis Flower, or Flos Adonis.

4. ADONIS *hellebori radice*, bu-phthalmi flore. H. L. The Hellebore-rooted Pheasant's-eye; commonly

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called, The Fennel-leav'd black Hellebore.

The third Sort is very common in *England*, and is sown in open Borders as an annual flowering Plant to adorn Gardens: the best time to sow it is in *August*, soon after the Seeds are ripe, when it rarely fails to grow, and is very hardy, being seldom hurt by Cold.

These Plants will flower in *June* and *July*, and the Seeds will ripen soon after; but those which are sown in the Spring, very often fail to grow, or at least remain till *June* or *July* before they appear; so that they seldom produce good Seeds the same Year, and rarely live over the Winter after flowering.

The first Sort grows wild in some Parts of *England*, particularly near the River *Medway*, about three Miles above *Rocheſter* Bridge; but this is seldom sown in Gardens.

The yellow Sort is uncommon in *England*, and only to be found in some curious Gardens. This makes a pretty Diversity with the former, and must have the same Culture.

The fourth Sort is still more rare than any of them: it is an abiding Root, and is increased by parting the Roots in *September*, or by sowing the Seeds, soon after they are ripe, in light sandy Earth: the Seedlings will be two or three Years before they blow, but the Off-sets will flower the succeeding Spring; but these Roots should not be parted oftener than every third or fourth Year; and then they ought not to be divided into very small Off-sets, which will prevent their flowering the following Spring, or, at least, cause them to flower very weak. This Plant should have an East Border, and a loamy Soil, in which it will thrive, and produce large Flowers.

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Flowers. This produces its Flowers in March, or early in April, and is not a despicable Plant in the most curious Gardens; especially when the Roots are large, they often produce twenty or thirty Flowers on each.

This Plant is used in Medicine by the Germans, as the true Hellebore.

AGERATUM.

The Characters are;

It hath a personated Flower consisting of one Leaf, the under Part of which is tubulous; but the upper Part is divided into two Lips, the upper one being divided into two, and the under one into three Parts: the Pistil, which arises from the Flower-cup, afterward becomes an oblong membranous Fruit, divided into two Cells, in which are contained many small Seeds.

The Species are;

1. AGERATUM *serratum* Alpinum glabrum, flore purpurascens. Tourn. Smooth Ageratum of the Alps, with a purplish Flower.

2. AGERATUM *Americanum* erectum spicatum, flore purpureo. Houst. American Ageratum, with purple Flowers growing in a Spike.

3. AGERATUM *Americanum* procumbens; gnaphalii facie, floribus ad foliorum nodos. Houst. Creeping American Ageratum, having the Face of Cud-weed, and the Flowers coming out at the setting on of the Footstalks.

4. AGERATUM *Americanum* frutescens, chamædrys folio, floribus ex foliorum alis. Houst. Shrubby American Ageratum, with a Germander-leaf, and the Flowers growing from the Setting on of the Leaves.

The first Sort, being a Native of the Alps, is very hardy in respect of Cold; but must have a strong Soil, and not too much exposed to the Sun: this is propagated by

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parting the Roots: the best time for doing of this is in September. This Plant grows very close to the Ground, and has been used in some Parts of England to make Edgings for Borders; but near London, where the Soil is hot, and has been dunged, it is very difficult to maintain this Plant. It flowers in June; but rarely produces ripe Seeds in England.

The other three Sorts were discovered in America by the late ingenious Dr. William Houstoun, who sent the Seeds of these Plants into Europe. The Seeds of these three Sorts must be sown on an Hot-bed in the Spring; and when the Plants are fit to transplant, they should be placed each into a small Pot fill'd with light Earth, and placed into a moderate Hot-bed, observing to water and shade them until they have taken Root. In Autumn these Plants will flower; and if they are placed in a Stove, will perfect their Seeds in Winter. They may also be continued thro' the Winter in a Stove, and will flower early the following Summer; so that good Seeds may be obtain'd by this Method; but they rarely continue longer than two Summers; so that they must be constantly raised from Seeds every Year.

The Ageratum, or Maudlin, is under the Genus of *Ptarmica*, where it is placed by Tournefort, and to which it properly belongs.

AGNUS CASTUS. Vide Vitex.

AGRIFOLIUM. Vide Aquifolium.

AGRIMONIA.

The Characters are;

The Leaves are rough, hairy, pinnated, and grow alternately on the Branches: the Calyx (or Flower-cup) consists of one Leaf, which is divided into five Segments: the Flowers have five or six Leaves, and are form'd into a long Spike, which expand

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expand in form of a Rose: the Fruit is oblong, dry, and prickly, like the Burdock; in each of which are contained two Kernels.

The Species are;

1. *AGRIMONIA officinarum*. Tourn.
The common or medicinal Agrimony.

2. *AGRIMONIA odorata*. Camer.
The sweet-smelling Agrimony.

3. *AGRIMONIA minor, flore albo*.
H. Cath. Lesser Agrimony, with a white Flower.

4. *AGRIMONIA Orientalis humilis, radice crassissima repente, fructu in spicam brevem & densam congesto*.
T. Cor. Dwarf Eastern Agrimony, with thick creeping Roots, and the Fruit growing in short thick Spikes.

The first of these Sorts is common in the Hedges in many Parts of England, and is the Sort commonly used in Medicine; but should not be wanting in a Garden: it will grow in almost any Soil or Situation, and is increased by parting the Roots in Autumn, or by sowing the Seeds soon after they are ripe.

The sweet-smelling Agrimony is by some prefer'd to the common Sort for medicinal Uses; but however it is certainly the most grateful to infuse for pectoral Decoctions, and makes a pleasant kind of Tea: it is propagated as the common Sort, but requires an opener Exposure.

The third and fourth Sorts are equally hardy with the common Sort, and may be propagated either by sowing the Seeds soon after they are ripe, or by parting their Roots in Autumn.

AGRIMONOIDES, Bastard Agrimony.

The Characters are;

It hath a rosaceous Flower, consisting of several Petals, which are placed in a circular Order, issuing out of the Divisions of the Flower-cup; but the Flower and the Flower-

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cup are received into another funnel-shaped Empalement, which is fringed. The Flower-cup afterward becomes a sharp oval Fruit, which is enfolded in the outer Empalement, and contains, for the most part, a single Seed.

There is but one Species of this Plant at present known; which is,

AGRIMONOIDES. Col. part 1. 145.

This is a perennial Plant, which in its outward Appearance greatly resembles Agrimony, but differs therefrom in its Flower; for which Reason Dr. Tournefort has separated it from the Agrimones. It may be propagated by Seeds, which should be sown in Autumn, soon after they are ripe; for if they are kept out of the Ground till Spring, they are subject to miscarry, or otherwise will remain in the Ground till the following Spring; whereas those which are sown in Autumn, seldom fail to come up the next Spring. When the Plants appear, they will require no other Culture, but to keep them clear from Weeds, until the following Autumn, when they should be taken up and transplanted where they are to remain. These Plants will grow in almost any Soil or Situation, provided they are not placed under the Drip of Trees.

The second Year these Plants will produce Flowers, and the Roots will abide several Years, and may be parted in Autumn, if you are willing to propagate them that way.

AHOUI.

The Characters are;

It hath a funnel-shaped Flower, consisting of one Leaf, and is divided into several Parts at the Top; from whose Cup arises the Pointal, which is fixed like a Nail to the inner Part of the Flower, which afterward becomes a fleshy Fruit, almost of a Pear-shape, in which is inclosed a three-cornered Nut.

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The Species are;

1. AHOUI. *Thev. Franc. Antart.* 66.

2. AHOUI *nerii folio, flore luteo.*
Plum. Ahouai with an Oleander-leaf, and a yellow Flower.

These two Plants grow in great Plenty on the Continent in the Southern Parts of *America*; but are less common in the Islands of *America*. The first of them grows to the Height of our common Cherry-trees; the Leaves are three or four Inches long, and almost two Inches broad. The whole Tree is full of a milky Juice, which flows out on breaking or wounding any Part of it. The Wood of this Tree stinks most abominably; and the Kernel of the Nut is a most deadly Poison; so that the *Indians* always caution their Children against eating of it; for they know of no Antidote to expel this Poison, nor will they use the Wood of this Tree for Fuel; but they take the Kernel out of the Shell, into which they put small Stones, and then bore an Hole thro' each Shell, and string them: these they tie about their Legs, to dance with, as is the Custom of our Morris-dancers with Bells.

The second Sort is of much lower Growth than the first, and seldom rises above ten or twelve Feet high. The Fruit of this Tree is of a beautiful red Colour when ripe; but the whole Plant abounds with a milky Juice, as the former, and I believe is equally poisonous. I received the Seeds of this Plant from *Panama*, which were collected by Mr. Robert Millar, Surgeon, in the Year 1735. they came up in an Hot-bed very well, and some of the Plants produced Flowers the same Year.

These Plants may be propagated from their Nuts, which should be

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put into small Pots fill'd with light Earth, and plunged into an Hot-bed of Tanners Bark, observing to water them frequently, to promote their Vegetation. When the Plants are come up about two Inches high, they should be transplanted each into a separate Pot fill'd with fresh light Earth, and plunged again into an Hot-bed of Tanners Bark, observing to shade the Glasses in the Heat of the Day, until the Plants have taken new Root. When the Plants are grown about a Foot high, they should have a larger Share of Air, in order to harden them before the Winter; but they should not be wholly exposed to the open Air the first Year, because it will stint their Growth. In the Winter these Plants should be placed in a warm Stove, and during that Season they should be frequently refreshed with Water; but it must not be given to them in great Quantities in cold Weather, lest it should rot their Roots. In the following Spring these Plants should be shifted again into other Pots; and if you have Conveniency to plunge them into a moderate Hot-bed of Tanners Bark, it will greatly promote their taking new Root. In *June* following these Plants should be inured to bear the open Air by degrees, into which they should be removed toward the Latter-end of the same Month; but they should be placed in a warm Situation, where they may be sheltered from strong Winds: in such a Situation they will bear the open Air of our Climate very well until *September*, when they should be again removed into the Stove, and must be managed during the Winter-season, as was before directed. These Plants produce their Flowers plentifully in *August*; but they have not as yet produced any Fruit in this Country.

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They retain their Leaves all the Year, which, being thick, strong, and of a shining-green Colour, make a pretty Variety amongst other tender Exotic Plants in the Winter-season, for which they are chiefly esteemed.

AIZOON.

This Name has been by some Writers applied to the House-leek, and also the Aloes; but Dr. *Linnaeus* has given it to a Plant near-kin to the Ficoides, which has been called *Ficoidea*, by some modern Botanists.

The Characters are;

The Flower-cup is divided into five Parts: the Flower consists of one Leaf: the Seed-vessel is divided into five Cells, having five Valves: and the Flower-cup rests on the Top of the Fruit.

The Species are;

1. AIZOON *foliis obverse ovatis*. Lin. Ever-green with oval Leaves.
2. AIZOON *foliis lanceolatis, subtus hirsutis*. Flor. Leyd. Ever-green with spear-shaped Leaves, hairy underneath.

The first Sort is a Native of the Canary-Islands: this is an annual Plant, which must be raised on a moderate Hot-bed in the Spring; and when the Plants are fit to transplant, they should be carefully taken up, and planted each into a small Pot fill'd with fresh light Earth, and plunged into another moderate Hot-bed, observing to shade them from the Sun until they have taken fresh Root; after which they must be hardened by degrees to bear the open Air, into which they should be removed in June, placing them in a sheltered Situation, where they will flower, and ripen their Seeds in August; soon after which the Plants will perish.

The second Sort was brought from the Cape of Good Hope: this

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Sort will continue two or three Years, provided they are housed with Ficoides's and Sedums in an airy dry Glass-case during the Winter-season. This Plant is propagated by Seeds, as the former, and may be treated in the same manner.

As this Genus of Plants hath no English Name, I have given it this of Ever-green; which is a Name applied by some of the antient English Botanists to the Aizoon or *Semper-vivum*; which Name they applied to the House-leek.

ALATERNOIDES. Vide *Phyllica*, *Clutia*, and *Celastrus*.

ALATERNUS, Ever-green Privet.

The Characters are;

The Flower has no Empalement, and consists of one Leaf, which is divided into four Parts: this is succeeded by a round Berry resting upon the upper Part of the Flower, which is divided into three Cells, each containing a single Seed: to which Notes may be added, The Leaves growing alternately upon the Branches, by which, at any time of the Year, it may be distinguished from Phillyrea.

The Species are;

1. ALATERNUS, 1. *Clus. Hisp.* This is commonly called, The broad-leav'd, or common Phillyrea.

2. ALATERNUS, 1 *Clusii, foliis ex luteo variegatis*. The blotch'd Phillyrea, *vulgo*.

3. ALATERNUS, *seu Phyllica, foliis angustioribus, & profundius serratis*. H. L. The narrow-leav'd Alaternus, with saw'd Edges.

4. ALATERNUS, *seu Phyllica aurea, five foliis ex luteo variegatis*. The Dutch gold-edg'd Alaternus, *vulgo*.

5. ALATERNUS, *seu Phyllica argentea, five foliis ex albo variegatis*. The silver Phillyrea, *vulgo*.

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6. *ALATERNUS minori folio.*
Tourn. The small-leav'd Alaternus.

The two first Sorts are very common in most old Gardens, and were formerly in much Request to make ever-green Hedges, but are of late almost wholly disused for that Purpose. The Branches are very apt to shoot strong, and require often clipping in Summer, to keep them handsome; and their being subject to be displaced by strong Winds, or great Snows, together with their being liable to suffer in hard Winters, has occasioned their being less propagated than they were some Years since, when they were in great Esteem for covering Walls, &c.

However, the first, with the third and sixth Sorts, is very proper for Wildernesses of Ever-greens, or to plant in Clumps, where, by the Diversity of their Leaves, and different Shades of Green, they very much add to the Beauty of such Plantations.

The three first Sorts will grow to the Height of sixteen or eighteen Feet, and, if suffered to grow without clipping, are very hardy (especially if they grow close together, or amongst other Trees); which will prevent the Frost from piercing the Bark of the Stems, which is often the Cause of their Destruction.

But whenever these Trees are planted as Standards, in ever-green Plantations, they will require to have their Stems supported for some Years; and if their Shoots, which extend too much, are now-and-then shorten'd, it will preserve them from being torn by strong Winds.

The fourth and fifth Sorts are tenderer than any of the other, and require some Shelter in hard Weather, or to be planted against warm Walls in Court-yards, &c. to cover them; where, if they are well kept,

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and not suffered to grow from the Walls, they afford an agreeable Prospect.

These Sorts are all increased, by laying down the young Branches in the Spring; which in two Years time will have taken Root, and may be then transplanted out either into a Nursery, or into the Places where they are to remain. These Trees delight most in a light dry sandy stony Soil, in which, though they do not shoot so strong as in a moist rich Earth, yet they are less subject to be hurt in Winter.

They may also be propagated by sowing their Berries, which should be put into the Ground in Autumn, soon after they are ripe, and the Plants will come up the following Spring; and if they are kept clear from Weeds, and in very dry Weather kept watered, they will rise to the Height of six or seven Inches the first Year. If the Winter after should prove very severe, it will be necessary to cover them; for while they are young, there will be more Danger of their being destroyed, than afterward, when they will have acquired Strength.

These Plants grow wild in *Spain*, *Portugal*, and the South of *France*, from whence their Berries may be procured. But the first Sort produces Berries in Plenty in *England*. These Trees are some Male, which never have Berries; only those have them, which are Male and Female in the same Flower.

ALCEA, Vervain-mallow.

The Characters are;

It hath the whole Habit of the Mallow, or Athaea; but differs from both, in having its Leaves deep divided, somewhat like Vervain.

The Species are;

1. *ALCEA vulgaris major, flore ex rubro roseo.* C. B. P. 316. Greater Vervain-

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Vervain-mallow, with a rose-colour'd Flower.

2. *ALCEA vulgaris major, flore candidiore.* C. B. P. 316. Greater Vervain-mallow, with a white Flower.

3. *ALCEA folio rotundo laciniato.* C. B. P. 316. Vervain-mallow with a round cut Leaf.

4. *ALCEA tenuifolia crispa.* J. B. 11. 1067. Narrow curled-leav'd Vervain-mallow.

5. *ALCEA cannabina.* C. B. P. 316. Hemp-leav'd Vervain-mallow.

6. *ALCEA Afra frutescens, grossulariæ folio, flore parvo rubro.* Boerb. Ind. Alt. African shrubby Vervain-mallow, with Gooseberry-leaves, and small red Flowers.

7. *ALCEA Africana arborescens, malvæ folio hirsuto, flore parvo purpureo.* Till. African tree-like Vervain-mallow, with hairy Mallow-leaves, and small purple Flowers.

8. *ALCEA Afra frutescens, grossulariæ folio ampliore, unguibus florum atro-rubentibus.* Aët. Phil. African shrubby Vervain-mallow, with larger Gooseberry-leaves, and dark-red Spots at the Bottom of the Flowers.

The first and second Sorts are common in Germany, France, and several Parts of Europe; but the fourth Sort is the most common in England. The first Sort is ordered for medicinal Use; but as that is not so common in England, the third is substituted in its stead; and I believe either of the four first Sorts may be used indifferently. These four Sorts are biennial Plants, and seldom continue above one or two Years after they have perfected Seeds: these Plants may be propagated by sowing their Seeds in the Spring; and when the Plants are come up, they should be thinn'd, leaving them about a Foot asunder,

where they may remain till they flower and seed; for they do not bear transplanting well, their Roots running, for the most part, downright, to a considerable Depth. These Plants should have a poor Soil; for in a rich Earth they grow too rank, and are subject to rot in Winter.

The fifth Sort is an abiding Plant, and is apt to creep at the Root. This may be propagated by Seeds as the former, and should have a lean Soil.

The sixth and seventh Sorts rise to the Height of eight or ten Feet, and make handsome Shrubs: these may be propagated by sowing their Seeds in the Spring, on a Bed of light Earth; and when the Plants are come up four or five Inches high, they should be each transplanted into a separate small Pot fill'd with fresh light Earth, observing to water and shade them until they have taken Root; after which they may be exposed during the Summer to the open Air; but in Winter they must be placed in the Green-house with Myrtles, &c. observing to give them a large Share of Air in mild Weather, and frequently refresh them with Water. With this Management, they will continue flowering most Part of the Year.

The eighth Sort is a seminal Variety from the sixth Sort, from the Seeds of which I have several times had the eighth arise.

ALCHIMILLA, Ladies Mantle.

The Characters are;

The Leaves are serrated: the Cup of the Flower is divided into eight Segments, which are expanded in form of a Star: the Flowers are collected into Bunches upon the Tops of the Stalks: the Seed-vessels contain, for the most part, two Seeds in each.

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The Species are;

1. *ALCHIMILLA vulgaris*. C. B. Common Ladies Mantle.

2. *ALCHIMILLA Alpina pubescens minor*. H. R. Par. The lesser woolly Ladies Mantle.

3. *ALCHIMILLA Alpina quinquefolia, folio subtus argenteo*. Tourn. The Alpine five-leav'd Ladies Mantle, with the under Part of the Leaves white.

4. *ALCHIMILLA minor*. Mor. Hort. Reg. Bles. The lesser Ladies Mantle.

5. *ALCHIMILLA Alpina pentaphylla minima, lobis fimbriatis*. Bocc. Mus. Par. 2. 18. Least five-leav'd Ladies Mantle of the Alps, with fringed Leaves.

6. *ALCHIMILLA montana minima*. Col. Par. 1. 146. Least mountain Ladies Mantle, commonly called, Parsley Breakstone.

7. *ALCHIMILLA supina, gramineo folio, minore flore*. Tourn. Low grafs-leav'd Ladies Mantle, with a smaller Flower.

8. *ALCHIMILLA erecta, gramineo folio, minore flore*. Tourn. Upright grafs-leav'd Ladies Mantle, with a smaller Flower.

9. *ALCHIMILLA gramineo folio, majori flore*. Tourn. Grafs-leav'd Ladies Mantle, with a larger Flower.

10. *ALCHIMILLA linariæ folio, calyce florum albo*. Tourn. Ladies Mantle, with a Toad-flax-leaf, and a white Flower-cup

11. *ALCHIMILLA linariæ folio, calyce florum subluteo*. Tourn. Ladies Mantle, with a Toad-flax-leaf, and a yellowish Flower cup.

12. *ALCHIMILLA Orientalis, linariæ folio brevissimo, calyce florum albo*. Tourn. Cor. Eastern Ladies Mantle with a very short Toad-flax-leaf, and a white Flower-cup.

13. *ALCHIMILLA Græca, kali folio, calyce florum albido*. Tourn.

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Cor. Greek Ladies Mantle, with a Glasswort-leaf, and a whitish Flower-cup.

The first Sort is a Plant sometimes used in Physic, and is gather'd frequently in moist Meadows, and at some Distance from London. This may be kept in a Garden, if planted in a moist Soil; and is increased by parting the Roots.

The second Sort is a much less Plant than the first, and is woolly and soft to the Touch; but this Plant, when cultivated in a good Soil, will grow to be almost as big as the first.

The third Sort is found wild in Westmorland, and other Northern Parts of England: this, with the two former, is preserved in curious Botanic Gardens; but as there is little Beauty in them, they are seldom planted in Gardens for Pleasure: they are all propagated by parting their Roots, or sowing their Seeds soon after they are ripe.

The fourth Sort is an annual Plant, which is very plentifully found on Heaths, and other uncultivated Places, in divers Parts of England; and if once transplanted into a Garden, and suffered to ripen Seeds, will come up and maintain itself without any Care. This Plant is often brought to the Markets in London, and sold for Rupture-wort, which is a very different Plant; but is not to be found wild near London.

These Plants are many of them preserved in Botanic Gardens for Variety: they all grow wild in England, Holland, and Flanders, except the two last-mention'd, which Mons. Tournefort found in his Voyage to the Levant. They are most of them annual Plants; and if they are permitted to shed their Seeds in Autumn, the Plants will come up,

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and require no other Culture, but to keep them clear from Weeds.

ALDER-TREE. *Vide* Alnus.

ALESANDER, or ALEXANDER. *Vide* Smyrnium.

ALKEKENG, Winter-cherry.

The Characters are;

It hath a Flower, which consists of one Leaf, and is expanded at the Top, but of a pentagonal Figure: the Fruit (which is about the Bigness of a Cherry) is inclosed in the Cup of the Flower, which swells over it in form of a Bladder.

The Species are;

1. ALKEKENG *officinarum*. Tourn. Common Winter Cherry of the Shops.

2. ALKEKENG *officinarum, foliis variegatis*. Tourn. Common Winter Cherry, with variegated Leaves.

3. ALKEKENG *fructu parvo verticillato*. Tourn. Winter Cherry with small Fruit growing in Whorles round the Stalks.

4. ALKEKENG *Virginianum, fructu luteo*. Tourn. Virginian Winter Cherry, with yellow Fruit.

5. ALKEKENG *Indicum majus*. Tourn. Greater Indian Winter Cherry.

6. ALKEKENG *Americanum annuum ramosissimum, fructu ex luteo virescenti*. Houst. American annual branching Winter Cherry, with a yellowish-green Fruit.

7. ALKEKENG *Americanum annuum maximum viscosum*. Houst. The largest annual American Winter Cherry.

8. ALKEKENG *Barbadense patulum, parvo flore, fructu amplo, mucrone productiori*. Ait. Phil. N^o 399. Dwarf Barbados Winter Cherry, with a small Flower, and an ample pointed Fruit.

9. ALKEKENG *Curassavicum, foliis origani incanis, flore viete sulphureo, fundo purpureo*. Boerh. Ind.

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Alt. 11. 66. Hoary Winter Cherry from Curasso, with Origany leaves, and sulphur-colour'd Flowers with purple Bottoms.

10. ALKEKENG *Americanum frutescens, fructu globoso rubro, vesica atro-purpurea*. Houst. Shrubby American Winter Cherry, with a round red Fruit, having a dark-purple Bladder.

11. ALKEKENG *Bonariense repens, bacca turbinata viscosa*. Hor. Elth. Creeping Alkekengi of Buenos Aires, with a clammy top-shap'd Berry.

The first Sort is very common in the English Gardens, where it is preserved for the Appearance of its Fruit, which is ripe in October, and continues often till the Middle of December: it is about the Size of a common Cherry, and of a fine red Colour. This Fruit is inclosed in a Bladder of a deep-red Colour, which, when ripe, bursts, and exposes the Fruit to Sight. It may be propagated by sowing the Seeds in the Spring, or by the Roots, which creep very much; so that if they are not confined, they will soon overspread a large Tract of Ground; therefore, to have them more beautiful, they should be confined in Pots, which should be placed in the Shade in Summer, and, if constantly watered in dry Weather, will produce great Numbers of Fruit. This Sort is ordered for medicinal Use by the College of Physicians. The second Sort is a Variety of the first, differing only in having variegated Leaves. This may be managed as the former.

The third, ninth, and tenth Sorts are abiding Plants, which require to be shelter'd from the Cold in Winter. The third Sort grows to a Shrub of about three Feet high, and produces great Numbers of Fruit annually;

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annually: this may be propagated by sowing the Seeds on a moderate Hot-bed in the Spring. In *June* these Plants should be potted, and placed in a shady Situation, until they have taken Root; after which they may be exposed to the open Air in Summer; but in Winter they must be placed in a warm Green-house.

The ninth Sort creeps very much at the Root, and is easily propagated by parting the Roots in the Spring. This must be housed in Winter as the former, but may be exposed in Summer: it produces Flowers annually, but has not produced any Fruit in *England*.

The tenth Sort grows to the Height of ten or twelve Feet: this is propagated by sowing the Seeds on an Hot-bed in the Spring, and must be afterwards potted, as hath been directed for the third Sort; but this must be placed in a Stove in Winter, it being the tenderest of all the Sorts here mention'd.

The fourth, fifth, sixth, seventh, and eighth Sorts are annual Plants, and require to be raised on an Hot-bed in the Spring; and when the Plants are come up two Inches high, they should be transplanted to another moderate Hot-bed, observing to water and shade them until they have taken Root; after which time they must have a large Share of fresh Air; and in *June* they may be taken up with a Ball of Earth to their Roots, and transplanted either into Pots or Borders of light Earth, where they may remain to perfect their Fruit.

The eleventh Sort will live in the open Ground in moderate Winters, provided it is planted in a dry Soil, and a warm Situation; but in hard Frost it is often destroyed; so that a Plant or two should be preserved in

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Pots, and housed in Winter, to preserve the Sort. This Sort may be easily propagated by its creeping Roots, or from the Seed; and requires very little Care in its Culture.

ALLELUJAH. *Vide Oxys.*

ALLIARIA, Sawce-alone, or Jack by the Hedge. *Vide Hesperis.*

ALLIUM, Garlick:

The Characters are;

It hath a bulbous Root, consisting of many small Tubercles included in the Coverings (or Coats) thereof: the Leaves are plain: the Flowers consist of six Leaves, which are formed into a Corymbus upon the Top of the Stalks: the Flowers are succeeded by subrotund Fruit, which are divided into three Cells, in which are contained roundish Seeds.

The Species are;

1. ALLIUM *sativum*. C.B. The common or manured Garlick.

2. ALLIUM *sativum alterum*, sive *Allioprassum*, *caulis summo circumvoluto*. C.B. The Rocambole.

3. ALLIUM *sylvestre latifolium*. C. B. Ramsons, or broad-leav'd wild Garlick.

4. ALLIUM *sylvestre ampicarpon*, *foliis porraceis, floribus & nucleis purpureis*. Raii Syn. Broad-leav'd mountain Garlick, with purple Flowers.

5. ALLIUM *sylvestre bicornis*, *flore ex herbaceo albicante, cum triplici in singulis petalis stria atro-purpurea*. Raii Syn. Ed. 3. 370. Wild Garlick, with an herbaceous striped Flower.

6. ALLIUM *Holmense*, *sphaerico capite*. Raii Syn. Ed. 3. 370. Great round-headed Garlick of the *Holms-Island*.

7. ALLIUM *bulbiferum Virginianum*. Boerh. Ind. Alt. *Virginian* Garlick.

8. ALLIUM *latifolium luteum*. *Inst. R. H.* The yellow Moly.

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9. *ALLIUM latifolium liliflorum*. *Inst. R. H.* Great broad-leav'd Moly.

10. *ALLIUM angustifolium umbellatum*. *Inst. R. H.* Dioscorides's Moly.

11. *ALLIUM montanum, foliis narcissi, majus*. *C. B. P.* Mountain Garlick, with Leaves like the Narcissus.

12. *ALLIUM caule triangulo*. *Inst. R. H.* Garlick with a triangular Stalk.

13. *ALLIUM montanum latifolium maculatum*. *Inst. R. H.* Broad spotted-leav'd mountain Garlick.

14. *ALLIUM montanum, foliis narcissi, minus*. *Inst. R. H.* Smaller mountain Garlick, with a Narcissus-leaf.

15. *ALLIUM montanum, radice oblonga*. *C. B. P.* Mountain Garlick, with an oblong Root.

16. *ALLIUM saxatile, acori radice, flore purpureo*. *Bocc. Mus.* Rock Garlick, with a Flag-root, and purple Flower.

17. *ALLIUM latifolium liliflorum, flore suave-rubente*. *Inst.* Broad-leav'd Garlick, with a Lily-flower of a soft red Colour.

18. *ALLIUM latifolium Hispanicum*. *Inst. R. H.* Broad-leav'd Spanish Garlick.

19. *ALLIUM angustifolium, floribus majoribus*. *Inst. R. H.* Narrow-leav'd Garlick, with larger Flowers.

20. *ALLIUM sylvestre, sive Moly minus, roseo amplo flore*. *Bot. Monsp.* Smaller wild Garlick of Montpellier, with a large rose-colour'd Flower.

21. *ALLIUM sylvestre perpusillum juncifolium moschatum*. *J. B.* Low wild Garlick, with a Rush-leaf, smelling like Musk.

22. *ALLIUM montanum minus*. *C. B. P.* Lesser mountain Garlick.

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23. *ALLIUM peregrinum, floribus albo-viridibus*. *Inst. R. H.* Foreign Garlick, with Flowers of a white-green Colour.

The two first Species are easily propagated by planting the Cloves, or small Bulbs, in *August* or *September*, in Beds about four or five Inches Distance from each other, keeping them clean from Weeds. About the Beginning of *June* the Leaves should be tied in Knots, to prevent their spindling, or running to Seed, which will greatly enlarge the Bulb. In the Middle of *July* the Leaves will begin to wither and decay, at which time they should be taken out of the Ground, and hang'd up in a dry Room, to prevent their rotting; and may be thus preserved for Winter-use.

The third Sort was formerly in greater Esteem than at present, it being rarely cultivated in Gardens; but is found wild in moist shady Places in many Parts of *England*; and may be cultivated by planting the Roots in a moist shady Border at almost any time of the Year; but the best Season is in *July*, just as the green Leaves are decaying.

The fourth, fifth, and sixth Sorts grow wild in the Northern Parts of *England*; but are by the Curious in Botany preserved in their Gardens. They are all very hardy, and may be removed in *July* or *August*, when their Leaves begin to decay, and will thrive in almost any Soil or Situation.

The seventh Sort was brought from *Virginia*, and is preserved in Botanic Gardens for Variety-sake, but has no great Beauty: it is very hardy, and will thrive in the open Air very well; and is propagated by its Bulbs, which are produced in Plenty on the Top of the Stalks.

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The eighth, ninth, tenth, eleventh, thirteenth, fourteenth, sixteenth, seventeenth, nineteenth, and twenty-first Sorts, are preserved in Gardens for Variety. They are all of them very hardy, and will thrive in almost any Soil or Situation; and are easily propagated either by their Roots, or from Seeds: if from the Roots, the best time is in Autumn, that they may take good Root in the Ground before the Spring, which is necessary in order to have them flower strong the following Summer. If they are propagated by Seeds, they may be sown on a Border of common Earth, either in Autumn, soon after the Seeds are ripe, or in the Spring following; and will require no farther Care, but to keep them clear from Weeds: in the following Autumn the Plants may be transplanted into the Borders where they are to remain for good.

The greatest Part of these Plants produce their Flowers in *May, June,* and *July*, except the twenty-first Sort, which seldom flowers till *August*. This is a very low Plant, seldom rising more than six Inches high, and has little Beauty in the Flowers; but, having a musky Scent, it is preserved by some curious Persons in their Gardens.

The yellow Moly, as also the sixteenth Sort, are Plants which grow about a Foot high; and having some Beauty in their Flowers, are worthy of a Place in such Borders of the Flower-garden where few better things will thrive. These increase plentifully both by Roots and Seeds.

The ninth and seventeenth Sorts grow upward of two Feet high; and when they are in Flower, make a pretty Appearance; and as they are not troublesome to keep, may be allowed a Place in the Borders of the Flower-garden.

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All the other Sorts are equally hardy, and will grow in any Soil or Situation; but as they have little Beauty, they are rarely preserved, except in Botanic Gardens, for the sake of Variety.

ALMOND-TREE. *Vide Amygdalus.*

ALMOND DWARF. *Vide Perficula.*

ALNUS, The Alder-tree.

The Characters are;

It hath Leaves resembling those of the Hazel: the Male Flowers (or Katkins) are produced at remote Distances from the Fruit, on the same Tree: the Fruit is squamose, and of a conical Figure.

The Species are;

1. *ALNUS rotundifolia glutinosa viridis.* C. B. The common or round-leav'd Alder.

2. *ALNUS folio oblongo viridi.* C. B. The long-leav'd Alder.

3. *ALNUS vulgaris, sub conis ligulis membranaceis rubris donata.* Raii Syn. Ed. 3. The scarlet Alder.

4. *ALNUS folio incano.* C. B. P. Hoary-leav'd Alder.

5. *ALNUS Alpina major.* C. B. P. Small Alder of the Alps.

6. *ALNUS montana, pallido glabro sinuato ulmi folio.* Bocc. Mus. Mountain Alder, with a pale smooth indented Elm-leaf.

7. *ALNUS montana, crispo, glutinoso, & denticulato folio.* Bocc. Mus. Mountain Alder, with a curled glutinous indented Leaf.

8. *ALNUS montana, lato crispo glutinoso folio serrato.* Bocc. Mus. Mountain Alder, with a broad curled sawed Leaf.

The first Sort of Alder is the most common in *England*; the second being rarely seen, unless in the Gardens of some curious Persons; tho' they

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they are both equally hardy, and may be propagated with Ease.

The third was found in a Meadow near *Long-Leet*, some Years since; but I believe it to be an accidental Variety of the common Alder, because the Cuttings which were taken from the Tree did not retain the Difference when they had made strong Shoots.

The fourth Sort is yet more uncommon in *England*; and also in most Parts of *Europe*. I do not remember more than one Tree of this Kind, which was in a famous Garden of Dr. *Boerhaave's*, near *Leyden* in *Holland*, who had raised it from a Cutting which was sent him from *Austria*.

The fifth, sixth, seventh, and eighth Sorts are Plants of humble Growth; and, being Natives of the *Alps*, and other mountainous Parts of *Europe*, they are with Difficulty kept in Gardens: for they delight in moist peaty Soils, and grow much better upon mossy Bogs, than in good Ground. I have transplanted two of the Sorts into a Garden, where, by keeping them in Pots in a shady Situation, and constantly watered, I have maintained them three or four Years; but when they were planted in the full Ground, they did not survive one Summer, although they were frequently watered. These Plants did not rise above six Inches with me; nor do I believe they ever grow to be more than three or four Feet high in the native Places of their Growth; so that they are not worth cultivating, unless by way of Curiosity.

The two first Sorts delight in a very moist Soil, where few other Trees will thrive, and are a great Improvement to such Lands: they are propagated either by Layers, or planting of Truncheons about three

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Feet in Length, in *February*, or the Beginning of *March*, which should be sharpened at one End, and the Ground loosened with an Instrument before they are thrust into it, lest by the Hardness of the Soil the Bark should be torn off, which may occasion their Miscarriage. They should be thrust into the Earth at least two Feet, to prevent their being blown out of the Ground by strong Winds.

If you raise them by laying down the Branches, it must be performed in *October*; and by the *October* following, they will have taken Roots sufficient to be transplanted out; which must be done by digging an Hole, and loosening the Earth in the Place where each Plant is to stand, planting the young Tree at least a Foot and an half deep, cutting off the Top to about nine Inches above the Surface, which will occasion them to shoot out many Branches.

The Distance these Trees should be placed (if design'd for a Coppice) is six Feet square; and if the small lateral Shoots are taken off in the Spring, it will very much strengthen your upright Poles, provided you leave a few small Shoots at Distances upon the Body thereof, to detain the Sap for the Increase of its Bulk.

These Trees may be also planted on the Sides of Brooks (as is usual for Willows), where they will thrive exceedingly, and may be cut for Poles every fourth or fifth Year. This Wood is in great Request with the Turners, and will endure a long time under-ground, or to be laid in Water.

The Alder-tree is also very proper to plant for Hedges, especially in moist Ground, where they thrive very fast, and may be trained into very thick close Hedges to the Height of twenty Feet and upwards.

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The Leaves of this Tree, being large, and of a deep Green, have a very good Effect in Hedges; and where they are planted for Coppice-wood in moist Land, make a much better Figure than most other aquatic Trees; so that where the Beauty of such Plantations is consider'd, these should be preferr'd to the other Sorts of Trees usually planted in swampy Grounds.

ALNUS NIGRA BACCIFERA. *Vide* Frangula.

ALOE.

The Characters are;

The Leaves are thick and succulent, and, for the most part, beset with Spines on the Edges: the Flower consists of one Leaf, is tubulous, and cut into six Segments at the Top, like the Hyacinth: the Fruit is oblong and cylindrical, which is divided into three Cells, in which are contained flat, and, for the most part, semicircular Seeds.

The Species are;

1. ALOE *Americana muricata*. J. B. The common large American Aloe.
2. ALOE *Americana minor*. Munt. The lesser American Aloe.
3. ALOE *Americana ex Vera Cruce*, *foliis angustioribus, minus glaucis*. H. Beaum. The narrow-leav'd Aloe from *Vera Cruz*.
4. ALOE *Americana ex Vera Cruce*, *foliis latioribus & glaucis*. H. H. The broad-leav'd Aloe from *Vera Cruz*.
5. ALOE *Americana, folio viridi rigidissimo fœtido, Piet dicta indigenis*. H. Beaum. The broad green-leav'd Aloe from *Curaçso*, with black Spines.
6. ALOE *Americana, folio viridi serrata, Silk-grafs dicta*. The American Aloe, with green serrated Leaves, called in the *West-Indies*, *Silk-grafs*.
7. ALOE *Americana sobolifera*. H.

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L. The American Aloe, which produces young Plants out of the Flower-stems.

8. ALOE *vulgaris*. C. B. The common *Barbados* Aloe.

9. ALOE *Africana, foliis glaucis, margine & dorso parte superiore spinosis, flore rubro*. Com. Præl. The African stalky Aloe, with glaucous serrated Leaves, and red Flowers.

10. ALOE *Africana caulescens, foliis spinosis, maculis ab utraque parte albicantibus notatis*. H. A. The common large spotted African Aloe, falsely called, The *Carolina* Aloe.

11. ALOE *Africana caulescens, foliis spinosis, maculis ab utraque parte albicantibus obscurioribus, magis glaucis quam præcedens*. Boerb. The large spotted African Aloe, with Leaves more glaucous, *i. e.* bluer or greyer, than the former.

12. ALOE *Africana arborescens montana, non spinosa, folio longissima plicatili, flore rubro*. H. A. The African Aloe-tree, with flat long smooth Leaves without Spines.

13. ALOE *Africana caulescens, foliis glaucis caulem amplectentibus, dorso integro spinoso*. Com. Rar. The African stalk'd Aloe, with glaucous Leaves surrounding the Stalks, and Spines growing on the Back of the Leaves.

14. ALOE *Africana caulescens, foliis glaucis brevioribus, caulem amplectentibus, foliorum parte interna & externa nonnihil spinosa*. Com. Rar. The African Aloe, with shorter glaucous Leaves surrounding the Stalks, and Spines within and outside of the Leaves.

15. ALOE *Africana caulescens, foliis glaucis brevissimis, foliorum summitate interna & externa nonnihil spinosa*. Com. Rar. The African Aloe, with the shortest glaucous Leaves, and Spines on both Sides of the Leaves at the Extremity.

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16. *ALOE Africana humilis, spinis inermibus & verrucis obsita. Com. Rar.* The Dwarf African Aloe, with Leaves arm'd with Spines and Warts, commonly called, The Hedgehog Aloe.

17. *ALOE Africana humilis, foliis ex albo & viridi variegatis. Com. Rar.* The Dwarf African Aloe, with green and white variegated Leaves, commonly called, The Partridge-breast Aloe.

18. *ALOE Africana erecta triangularis, & triangulari folio viscofo. Com. Rar.* The upright triangular-leav'd viscous Aloe.

19. *ALOE Africana erecta rotunda, folio parvo, & in acumen rigidissimum exeunte. Com. Rar.* The upright African Aloe, with small sharp-pointed Leaves.

20. *ALOE Africana, flore rubro, folio triangulari verrucis & ab utraque parte albicantibus notato. H. A.* The triangular-leav'd African Aloe, with white Tubercles on every Part of the Leaf, and red Flowers.

21. *ALOE Africana margaritifera minor. H. A.* The small Pearl Aloe.

22. *ALOE Africana, folio in summitate triangulari margaritifera, flore subviridi. H. A.* The greater Pearl Aloe, vulgo.

23. *ALOE Africana foliis planis conjugatis carinatis verrucosis, caule & flore corallii colore. Boerb. Ind.* The African Aloe, with plain fleshy Leaves growing opposite, which are full of Tubercles, and red Flowers.

24. *ALOE Africana minima atroviridis, spinis herbaceis numerosis ornata. Boerb. Ind.* The least African Aloe, with dark-green Leaves, which are set very thick with greenish Spines.

25. *ALOE Africana, flore rubro, foliis maculis albicantibus ab utraque*

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parte notato. H. A. The Tongue Aloe, vulgo.

26. *ALOE Africana, foliis planis latioribus minime ferratis, carinatis, caule & flore corallii colore. Ind.* The broad-leaved Tongue Aloe, vulgo.

27. *ALOE Africana, foliis longis conjugatis, supra cavis margaritiferris, flore rubro elegantissimo. Boerb. Ind.* The Pearl Tongue Aloe, vulgo.

28. *ALOE Africana caulescens, folio crasso obscure viridi, spinis ad latera & in dorso armata. Boerb. Ind.* The stalky African Aloe, with thick dark-green Leaves, arm'd with Spines on the Back-side of the Leaves.

29. *ALOE Africana caulescens, foliis glaucis caulem amplectentibus. H. A.* The stalky African Aloe, with glaucous Leaves surrounding the Stalks.

30. *ALOE Africana caulescens, foliis minus glaucis caulem amplectentibus, floribus rubris. The Sword Aloe, vulgo.*

31. *ALOE Americana foliis ex albo & viridi eleganter variegatis. Hort. Beaum.* The striped American Aloe.

32. *ALOE Africana, brevissimo crassissimoque folio, flore subviridi. H. A.* The Cushion Aloe, vulgo.

33. *ALOE Africana, folio triangulo longissimo & angustissimo, floribus luteis foetidis. H. L.* The African Aloe, with long narrow triangular Leaves, and stinking yellow Flowers, commonly called, Iris Uvaria.

34. *ALOE Guineensis, radice geniculata, foliis e viridi & atro undulatis variegatis. Com. Præl.* The Guiney Aloe, with knotted Roots, and undulated variegated Leaves.

35. *ALOE Zeylanica pumila, foliis variegatis. Pat. Bat.* The Dwarf Zeylon Aloe, with variegated Leaves.

36. *ALOE Africana caulescens, foliis minus glaucis caulem amplectentibus, dorsi parte suprema spinosa. Com. Rar.*

Rar. The stalky *African Aloe*, with less glaucous Leaves surrounding the Stalks, with Spines on the Back-side of the Leaves at the Extremity.

37. *ALOE Indiae Orientalis, serrata, succotrina vera, flore phaeniceo.*
H. Beaum. The Succotrine Aloe.

38. *ALOE Africana arachnoidea.*
Com. Rar. Pl. 78. *African Cobweb Aloe, vulgo.*

The Soil in which these Plants thrive best, is one half fresh light Earth from a Common (and if the Turf is taken with it, and rotted, it is much better); the rest should be white Sea-sand, and sifted Lime-rubbish, of each of these two, a fourth Part; mix these together six or eight Months at least before it is used, observing to turn it over often in this time.

The first of these Aloes is very hardy, in respect to Cold; and has, in mild Winters, endur'd abroad, being planted in a very dry Soil, and under a South Wall; but as they are liable to be killed in hard Frosts, they generally are kept in Pots or Tubs in a common Green-house with Oranges, Myrtles, &c. but must have little Moisture in Winter. Most of the other Sorts are better preserved in an airy Glass-case, in which there is a Stove to make a little Fire in very bad Weather; to dry and warm the Air in foggy, cold, or wet Weather, and to prevent the Frost from entering the House.

The fifth, sixth, seventh, eighteenth, thirty-fourth, and thirty-fifth Sorts require a greater Share of Heat to preserve them in Winter, and should be set in a good Stove, and kept nearly to the Degree of Heat marked (upon the Botanical Thermometers) temperate. Indeed most of the other Sorts may be kept in the same Temperature of Heat in Winter; but then you must observe,

that the greater the Heat is in Winter in which you keep them, the more Water they will require: and if they are well managed in this Heat, they will grow very much in Winter; therefore great Care must be taken in the severe Cold, that it doth not enter the House, nor that the Heat be at that time lessened; as also how you begin to give them Air in the Spring; for the extreme Parts of the Plants will be rendered very tender, by their growing freely in Winter; and the least Check to their Growth at that Season, is very often their Destruction.

About the Beginning of *June*, most People (in *England*) set their Pots of Aloes out of the House; but, if this be done, they should be set under the Shelter of Hedges or Trees, to screen them from the Violence of the open Sun and Wind, which, in a few Days, will otherwise change their Colour, and very much diminish their Beauty; and very often the great Rains which fall in *June* or *July*, either rot, or fill them with so much Moisture, as, in Winter, to be liable to Destruction with the least Cold: therefore, upon the Whole, it is much more adviseable to keep them most Part of the Year in the House (as is the constant Practice in *Holland*); giving them, in good Weather, as much free open Air as is possible, and screening them with Mats, Shutters, or Tarpawlins over the Glasses from the great Heat of the Sun in the Middle of the Day.

In the Middle of *July* is a very proper Season to shift these Plants; at which time you may take them out of the Pots, and with your Fingers open the Roots, and shake out as much of the Earth as possible, taking off all dead or mouldy Roots; but do not wound or break the young fresh

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fresh ones: then fill the Pot about three Parts full of the above-mentioned Earth, putting a few Stones in the Bottom of the Pot, to drain off the Moisture; and after placing the Roots of the Plant in such a manner as to prevent their interfering too much with each other, put in as much of the same Earth, as to fill the Pot almost to the Rim, and observe to shake the Plant, so as to let the Earth in between the Roots; and then with your Hand settle it close to the Roots of the Plant, to keep it steady in the Pot; then water them gently, and set them abroad in a shady Place, where they may remain for three Weeks, giving them gentle Waterings, if the Weather should prove hot and dry.

Toward the Latter-end of *August*, in a dry Day, remove them into the House again, observing to give them as much free open Air as possible, while the Weather holds warm; but, if the Nights are cool, you must shut up the Glasses, and give them Air only in the Day; and, as the Cold increases, you must decrease opening the Glasses; but observe to give them gentle Waterings often, till the Middle of *October*, when you must abate them, according to the Heat of the House in which they are kept.

The first Sort may be set abroad in the Beginning of *May*, and remain so till *October*; and, in dry Weather, must have frequent, but gentle Waterings, and should be shifted every Year, taking off all the Suckers, and rotten Roots, which, if suffered to remain on, will greatly retard the Growth of the Plant.

The thirty-third Sort is very hardy, and should be planted abroad under a good South Wall, where it will thrive and increase much faster

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than if kept in Pots, and will produce much stronger Flowers.

How increased.] These Aloes are all increased by Off-sets, which should be taken from the Mother-plant, at the time when they are shifted, and must be planted in very small Pots, filled with the same Earth as was directed for the old Plants; but if, in taking the Suckers off, you observe that Part which joined to the Mother-root to be moist, you must let them lie out of the Ground in a shady dry Place two or three Days to dry before they are planted, otherwise they are very subject to rot.

Most of the *African* Sorts of Aloes produce Flowers with us annually, when grown to a sufficient Size, which is generally the second, and seldom more than the third Year, after planting from Off-sets, provided they are kept in a moderate Degree of Warmth in Winter; but the *American* Aloes (which, for the most part, produce their Flower-stems immediately from the Centre of the Plant) seldom flower till they are of a considerable Age, and this but once during the Life of the Plant; for when the Flower-stem begins to shoot from the Middle of the Plant (which, for the most part, is of a large Size, and grows to a great Height), it draws all the Moisture and Nourishment from the Leaves, so that, as that advances, the Leaves decay; and when the Flowers are fully blown, scarce any of the Leaves remain alive; but whenever this happens, the old Root sends forth a numerous Quantity of Off-sets for Increase; and it is not till this time that some of these Sorts can be increased, especially the second, third, fourth, fifth, sixth, and seventh Sorts, which never produce any young Plants until they flower: at which

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time the Flower-stem of the seventh Sort is beset with small Heads from Bottom to Top, which, being taken off, and planted, will grow as well as Suckers from the Roots.

This Aloe, which, with us, seldom makes a very large Plant, hath yet produced Flower-stems of a considerable Size, and fifteen Feet in Height. The Flowers are little less than those of the large Sort. I cannot here forbear taking notice of a vulgar Error or two relating to the large *American Aloe*; which is, that it never flowers till it is an hundred Years old, which is a Mistake; since we have had several of them flower in *England*, some of which were known not to exceed fifty Years old; and others, which flowered many Years ago, cannot be supposed to have been in *England* so long as to arrive at that Age, since they were thought too tender for our Climate at that time, when Green-houses were not known; as may be seen by looking into *Gerard's* and *Parkinson's* Herbals.

Another common Error is, that when the Flower opens, it makes a Report like that of firing a Gun: this is sufficiently confuted by all those who have been where these Plants have flowered; but I suppose the Rise of this Story might proceed from some Persons saying, when one of these Plants flowered, it made a great Noise; meaning thereby, that whenever one of them flowered in *England*, it was spread abroad as an uncommon thing, and occasioned a great Noise among the neighbouring Inhabitants, most of whom usually repair to see it, as a thing that rarely happens, and as a great Curiosity.

Those who are desirous to have this Sort of Aloe flower, may, by

giving the Plants large Tubs for their Roots to spread, greatly promote their Growth; and in proportion to the growing of the Plants, their Flowering is hastened. For the Bud being formed in the Centre of the Plants, when the Number of Leaves which enfold it are thrown off, the Stem will advance; so that in *Spain* and *Portugal*, where the Plants grow fast, they produce Flowers in eighteen or twenty Years; and in the *West-Indies*, where they grow faster, in seven or eight.

The *African Aloes*, for the most part, afford Plenty of Suckers, by which they are increased; but those few that do not, may be most of them propagated, by taking off some of the Under-leaves, laying them to dry for a Week or ten Days, as was directed for the Off-sets; then plant them in the same Soil as was directed for them, putting that Part of the Leaf which did adhere to the old Plant, about an Inch, or an Inch and an half (according to the Size of the Leaf), into the Earth, giving them a little Water to settle the Earth about them; then plunge the Pots into a moderate Hot-bed, observing to screen them from the Violence of the Sun, and give them gentle Refreshings with Water: the best Season for this is in *June*, that they may push out Heads before Winter.

The *Guiney* and *Zeylon Aloes* have creeping Roots, by which they propagate themselves so fast as to fill the Pots with Suckers, whereby the old Plant is often rendered unsightly, and is retarded in its Growth: therefore these Suckers should be frequently taken off; and by so doing the *Guiney Aloe* will flower: but the *Zeylon Aloe* has not as yet produced any Flowers in *Europe*, as I can learn. These are both tender, and

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and will not live through the Winter, unless they are placed in a good Stove.

The eighth Sort produces the Aloes commonly sold in the Shops for Horses, and is called, *Aloe Hepatica*. But it is from the thirty-seventh Sort, the Succotrine, or best Sort of Aloes, is produced; which is done by cutting their Leaves transversly, and placing earthen Vessels under them to receive the Juice which drops from these cut Leaves; which Juice, when inspissated, becomes the Aloe, which is used in Medicine. But I believe in making the coarser Sort of Aloes, they press the Leaves; whereby a greater Quantity of Juice is obtained: but this is not near so fine as the other.

ALOIDES. *Vide* Stratiotes.

ALPINIA.

The Characters are;

The Flower is tubulous and personated, consisting of one Leaf, which is divided into three unequal Segments, which spread open: after the Flower is past, the Ovary becomes a Fruit with three Cells, each containing one Seed.

We have but one Sort of this Plant in Europe; viz.

ALPINIA racemosa alba, cannacori foliis. Plum. Nov. Gen.

This Plant is a Native of the *West-Indies*, from whence it has been brought into some of the curious Gardens of Europe, where it must be preserved in a warm Stove, and the Pots plunged into an Hot-bed of Tanners Bark; otherwise it will not thrive in this Country. The Leaves decay every Winter, and are pushed out from the Roots every Spring, like the Ginger and Maranta; and it should be managed in the same manner as is directed for those two Plants, and may be propagated by parting of the Roots.

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ÆSCHYNOMENE. *Vide* Mimosa.

ALTHÆA, Marsh-mallow.

The Characters are;

It agrees with the Mallow in most respects; but the outward Empalement of this is divided into nine Parts, whereas that of the Mallow is divided into three: to which may be added, The woolly soft Leaves, by which it has been generally distinguished.

The Species are;

1. *ALTHÆA frutescens, folio acuto, parvo flore. C. B.* The shrubby Marsh-mallow, with sharp-pointed Leaves, and small Flowers.

2. *ALTHÆA frutescens Lusitânica, folio ampliore, minus incano. Tourn.* The Portugal shrubby Marsh-mallow, with large and less hoary Leaves.

3. *ALTHÆA frutescens Lusitânica, folio rotundiore undulato. Tourn.* The Portugal shrubby Marsh-mallow, with rounder and undulated Leaves.

4. *ALTHÆA frutescens, folio bryoniæ. C. B.* The shrubby Marsh-mallow, with Bryony-leaves.

5. *ALTHÆA flore majore. C. B.* The large-flower'd Marsh-mallow.

6. *ALTHÆA Dioscoridis & Plinii. C. B.* The common Marsh-mallow.

7. *ALTHÆA folio rotundiori, aut minus acuminato. Suther.* The rounder-leav'd Marsh-mallow.

8. *ALTHÆA maritima arborea Gallica. Inst. R. H.* Common Tree-mallow.

9. *ALTHÆA maritima arborea Veneta. Inst. R. H.* Venetian Mal-low-tree.

The first, second, fourth, eighth, and ninth Sorts grow to the Height of eight or ten Feet, and have woody Stems and Branches; but the two last seldom have their Stems so hard as the former; nor do the Plants continue long, these seldom lasting more than two Years; whereas the other

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other will continue four or five Years, if the Winters are not very severe, and the Plants grow upon a dry lean Soil; for when they are planted upon good moist Ground, they shoot very luxuriant, and become so replete with Sap, as to be injured by the first Frosts in Autumn.

The eighth Sort grows wild upon the Sea-coast in several Parts of *England*, from whence their Seeds may be obtained.

The ninth Sort grows taller than the eighth, and generally is formed into a more regular pyramidal Head; the Flowers are also of a deeper Colour, in which they differ from the common Sort, and are somewhat tenderer.

These two Sorts thrive better if they are sown where they are to remain, than if they are transplanted; or, if they are removed, it should be done while the Plants are young, otherwise they generally miscarry. The second Year after sowing, these come to flower; and after they have seeded, they seldom survive the following Winter: but the first, second, and fourth Sorts may be intermixed with other Shrubs, where they will stand four or five Years, and by their continuing long in Flower, make a fine Variety.

The third Sort seldom rises above four or five Feet high, and the Stems seldom become very woody: but this will live in the open Air in Winter, provided it is planted in a warm situation, and upon a dry Soil. The Flowers of this Kind are of a paler Colour than the other, resembling those of the common Marsh-mallow, but are somewhat larger; the Leaves are very soft, hoary, and waved on their Edges; which makes a pretty Variety.

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The fifth Sort dies to the Ground every Winter, and shoots up in Summer to the Height of six or seven Feet: this produces Flowers from the Beginning of *July* to *September*, for which it may have a Place in good Gardens.

These Plants are all easily raised from Seeds, which must be sown in *March*, in a light dry Soil, and in two Months they will be fit to transplant into the Places where they are to remain for good, or put into Pots, that when they are remov'd, the Earth may be turn'd out of the Pots without disturbing the Roots (for these Shrubs will not bear a Remove, when grown to any considerable Stature); the Roots being for the most part compos'd of strong woody Parts, and have very few small Fibres, so that the Earth is subject to fall intirely off upon removing them; and if it so happen to grown Plants, they rarely are made to grow afterwards.

The second Year these Shrubs begin to flower, and one single Plant (if suffer'd to seed) will produce enough to raise many hundred Plants. They are impatient of Wet in Winter; therefore should be planted in a dry, rubbishy, or sandy Soil, where they will stand much better than in a strong rich Earth; but they are seldom longer-liv'd than five or six Years with us, especially if suffer'd to flower and seed plentifully every Year: therefore the best Way to preserve them is, to cut off the extreme Parts of the Branches in *July*, that they may make fresh Shoots before Winter: this will also make their Heads more regular, than if they were suffer'd to grow rude.

They may be also raised by planting Cuttings in *May*, in a light Soil,

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keeping them shaded, and often refreshing them with Water until they have taken Root.

The five first-mention'd Sorts are all Strangers to our Country, being Natives of *Spain, Portugal*, and the South of *France*; and are only to be found in the Gardens of the Curious. The two last Sorts grow wild in many Parts of *England*, and are by some propagated in Gardens for physical Use. These two Sorts are also raised from Seeds, or by parting the Roots early in the Spring, and will grow in almost any Soil or Situation. These two die down to the Ground annually, and rise again the succeeding Spring.

ALYSSOIDES.

The Characters are;

It hath a Flower in form of a Cross, consisting of four Leaves, out of whose Flower-cup rises the Pointal, which afterward becomes an elliptical thick Fruit, divided into two Cells by an intermediate Partition, which is parallel to the demi-elliptical turgid Valves, and filled with round flat Seeds, having Borders round them.

The Species are;

1. ALYSSOIDES *fruticosum, leucoii folio viridi*. Tourn. 218. Shrubby Alyssoides, with a green Stock-gillyflower-leaf.
2. ALYSSOIDES *incanum, foliis sinuatis*. Tourn. 218. Hoary Alyssoides, with sinuated Leaves.
3. ALYSSOIDES *fruticosum Creticum, leucoii folio incano*. Tourn. Cor. Shrubby Alyssoides of Candy, with an hoary Stock-gillyflower-leaf.
4. ALYSSOIDES *Orientalis annua, myagri sativi folio*. Tourn. Cor. Oriental annual Alyssoides, with a Myagrum-leaf.

The first and third Sorts are perennial Plants, which rise to the Height of two or three Feet: these may be propagated by sowing their Seeds

on a Border of light Earth in the Spring; and when the Plants are come up four Inches high, they may be transplanted into Pots filled with light fresh Earth, and placed in a shady Situation until they have taken new Root, when they may be exposed to the open Air until the latter-end of *October*, when they should be placed under a common Hot-bed-frame, where they may be sheltered from severe Frost in Winter; but they must have as much free Air as possible in mild Weather, and should be frequently refreshed with Water. The following Summer they will flower, and produce ripe Seeds; but the Plants may be continued four or five Years, by sheltering them in the Winter, as I have directed. They will often live through the Winter in the open Air, provided they are planted in a Situation where they are protected from the North and East Winds.

The second Sort seldom continues longer than three or four Years; and in severe Frost is often destroyed, when planted in the open Air. This must be sown on a Border of light Earth in the Spring, and when the Plants are come up three Inches high, some of them should be potted, in order to shelter them in Winter; but there should be some Plants left where they were sown, which, in a warm Season, will flower, and produce ripe Seeds the same Year; but if these should miscarry, those in the Pots may be preserved through the Winter, under a common Frame; and in the succeeding Spring they should be turned out of the Pots into the full Ground, where they will flower strongly, and produce a large Quantity of Seeds, which, if permitted to scatter, will come up, and furnish plenty of young Plants.

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The fourth Sort is an annual Plant. This must be sown on a warm Border in the Spring, in the Place where the Plants are to remain; for it doth not bear transplanting well: these Plants should be thinned, if they come up too thick. In *August* they will flower, and in *September* they will perfect their Seeds.

ALYSSON, Madwort.

The Characters are;

The Flowers consist of four Leaves, which are expanded in form of a Cross: the Fruit is short and smooth, in which are contained many roundish Seeds.

The Species are;

1. ALYSSON *Creticum saxatile, foliis undulatis incanis. T. Cor.* The Alysson of Candy, with hoary undulated Leaves.

2. ALYSSON *halimi folio, semper-virens. Tourn.* The ever-green Alysson, with Sea-purslane-leaves.

3. ALYSSON *Alpinum hirsutum luteum. Tourn.* The yellow Alpine Alysson, with hairy Leaves.

4. ALYSSON *perenne montanum incanum. Tourn. 217.* Hoary perennial Mountain-madwort.

5. ALYSSON *halimi folio argenteo angusto. Tourn. 227.* Madwort with a narrow silver-colour'd Sea-purslane-leaf.

6. ALYSSON *fruticosum incanum. Tourn. 217.* Hoary Shrub-madwort.

7. ALYSSON *fruticosum aculeatum. Tourn. 217.* Prickly Shrub-madwort.

8. ALYSSON *Creticum, foliis angulatis, flore violaceo. Tourn. Cor.* Candy Madwort, with angular Leaves, and violet-coloured Flowers.

9. ALYSSON *veronicae folio. Tourn. 217.* Madwort with a Speedwell-leaf.

10. ALYSSON *segetum, foliis auriculatis acutis. Tourn. 217.* Corn-

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madwort, with auriculated sharp-pointed Leaves.

11. ALYSSON *segetum, foliis auriculatis acutis, fructu majori. Tourn. 217.* Corn-madwort, with auriculated sharp-pointed Leaves, and a larger Fruit.

12. ALYSSON *incanum luteum, serpilli folio, majus. Tourn. 217.* Larger yellow hoary Madwort, with a Mother-of-thyme-leaf.

The first of these Sorts will grow to be near two Feet high, with a woody Stem, and may be form'd into a regular Head; and, being planted in the Middle of Borders, in a Flower-garden, is a very great Ornament thereto. It produces large Quantities of bright yellow Flowers in the Beginning of *April*, which continue till some time in *May*, especially if the Weather proves cool. When it is in Flower, the whole Plant appears, at a little Distance, to be nothing but Flowers, the Leaves and Stem being quite hid until you come near the Plant.

This Plant is hardy, and although brought from a more southerly Climate, yet, if planted in a dry, lean, or rubbishy Soil, will endure our severest Winters abroad. It is increased by sowing the Seeds in *March* in a light sandy Soil (but it rarely produces Seeds in *England*), or by planting Cuttings in *April* or *May*; which are very apt to take Root, if kept shaded in the Heat of the Day, and gently refreshed with Water.

The second Sort seldom continues above two or three Years with us, and must therefore be often sown to preserve it; or if the Seeds are suffered to fall, and remain upon the Ground, it will rise again without any Trouble. This Plant spreads itself upon the Ground, and never rises to any Height. It produces, at

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the Extremity of its Branches, very pretty Tufts of small white Flowers; of which the Plant is seldom destitute for six or seven Months successively; for which Reason it deserves a Place in the Gardens of the Curious. This will also grow from Cuttings, if planted and managed as the former.

The third Sort is a very humble Plant, rarely rising with us above two or three Inches high. It produces abundance of small yellow Flowers early in the Spring, when few other Flowers appear, for which it is valuable. It is increas'd by parting the Roots in Autumn, and requires a light sandy Earth, and to be expos'd only to the morning Sun.

The fourth, fifth, sixth, and seventh Sorts may be managed as hath been directed for the third. These will continue two or three Years; and if their Seeds are permitted to scatter, the Plants will come up, and thrive, without any further Care than keeping them clear from Weeds.

The eighth Sort is an abiding Plant, which rarely produces Seeds in *England*, but multiplies greatly by Off-sets, which may be planted into Pots filled with fresh light Earth, either in Spring or Autumn. These Pots must be shelter'd from extreme Cold in Winter; but must have a great Share of Air in mild Weather; for they are never injured but by very severe Frosts. Some of the Plants may be planted on a warm Border, where they will endure the Cold of our ordinary Winters very well. This Plant produces great Quantities of Flowers early in the Spring.

The other five Sorts are annual Plants, which should be sown early in the Spring on a Bed of light fresh

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Earth, where they are to remain; for they do not bear transplanting well; and the Plants being thinned, and kept clear from Weeds, is the only Culture they require. If the Seeds of these Sorts are suffer'd to scatter, the Plants will come up in Autumn, and stand through the Winter; whereby they will more certainly produce good Seeds the following Summer.

AMARANTHOIDES, or Everlasting-flower, or Globe-amaranthus; and by the *French*, *l'Immortal*.

The Characters are;

The Flowers are small, and cut into four Segments, which are collected into squamose Heads: from each of these Scales is produced a single Flower: the Ovary in the Bottom of the Flower becomes a roundish crooked Seed, which is contain'd in a thin Pellicule, or Skin.

The Species are;

1. AMARANTHOIDES *lychnidis folio, capitulis purpureis*. *Tourn.* The purple Globe-amaranthus, or Eternal-flower.

2. AMARANTHOIDES *lychnidis folio, capitulis argenteis*. The white or silver colour'd Globe-amaranthus, or Eternal flower.

3. AMARANTHOIDES *lychnidis folio, capitulis argenteis minoribus*. *Inf.* *R. H.* White Globe-amaranthus, with smaller Heads.

4. AMARANTHOIDES *lychnidis folio, capitulis purpureis minoribus*. Purple Globe-amaranthus, with small Heads.

5. AMARANTHOIDES *marina repens, polygoni folio, capitulis argenteis*. *Plum.* Trailing Sea-amaranthoides, with a Knot-grass-leaf, and silver Heads.

6. AMARANTHOIDES *lychnidis folio, spicata, squamis herbaceis, foliisque purpurascens*. *Houff.* Spiked

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Spiked Amaranthoides, with herbaceous scaly Heads, and small purplish Flowers.

7. AMARANTHOIDES *scandens, lychnidis folio glabro, capitulis globosis. flavescentibus.* *Houft.* Climbing Amaranthoides, with a smooth Lychnis-leaf, and yellow globular Heads.

The two Sorts first-mentioned are now become very common in the *Engliff* Gardens: these came originally from the *East-Indies*, from whence also the most beautiful of the Amaranthus's have been brought, with most of the other curious annual Hot-bed Plants.

The other Sorts are Natives of *America*, from whence their Seeds have been sent to *England*; but as neither of these are very beautiful Plants, they are rarely preserved, unless in Botanic Gardens; but whoever is willing to propagate any of the Species, the same Culture as is given to the two first Species, will agree with either of the Kinds.

These Plants are some of the greatest Beauties amongst the whole annual Tribe: they must be sown very early in a good Hot-bed, and treated as will be hereafter directed for the *Amarantbs*; with this Difference only, that these must have a greater Share of Heat, and be forwarded more in the Spring.

These Flowers, if gathered before they decay on the Plant, and kept in a dry Place, will remain in Beauty for some Years, especially if they are not too much expos'd to the Air: they are therefore very proper Ornaments for Ladies to wear in their Hair, and are far preferable to any artificial Flowers whatever. The Purple and White of these Flowers, together with some Varieties of the *Elichrysums* and *Xeranthemums*, will make a curious Va-

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riety of dry Flowers for Basons to adorn Rooms in the Winter-season, when few other Kinds are to be had.

The *Portuguese* and *Spaniards* are very fond of these Flowers, and cultivate great Quantities of them in their Gardens, for adorning their Places of Worship in the Winter-time. The Seeds of this Plant, being closely surrounded with a thin Skin, appear to some Persons, who are unacquainted therewith, to be only a chaffy Substance, without any good Seeds; for the Seeds, which are small, and of a roundish Form, seldom quit this Covering, unless rubbed out; but if the Seeds are sown with these Coverings over them, they will come up full as well as if taken out.

If the Autumn should prove cold or wet, it will be very necessary to remove the Pots, with these Plants, into Shelter; otherwise they will not perfect their Seeds, especially if they were not sown very early in the Spring. If these Pots are preserved in a good Green-house, their Flowers will make a pretty Variety amongst other Plants, and will continue until the Middle or Latter-end of *November*, provided the Weather proves not too cold: but what Flowers you intend to preserve, should be gathered soon after they arrive at their proper Bigness; for if they are suffer'd to remain very long after, the under Part of their Heads will change brown, and decay.

AMARANTHUS, Amaranth, or Flower-gentle.

The Characters are;

The Flowers have seemingly no Petals: the Cup of the Flower is dry and multifid: the Seeds are included in membranaceous Vessels, which, when come to Maturity, burst open either transversely or horizontally, af-

ter the manner of Purslane and Pimpernel, in each of which are contained one or more roundish Seeds.

There is a vast Variety of these Plants, both in the East and West-Indies, many of which are extremely beautiful, and as much deserve our Care as any of the flowery Tribe. I shall here take notice of the several Varieties which are cultivated in the English Gardens for their Beauty, omitting the other more common or less worthy Sorts, as more fit for a Botanical Disquisition.

1. AMARANTHUS maximus. C. B. The Tree Amaranth, vulgo.

2. AMARANTHUS maximus, panicula longa pendula, semine rubello. Raii Hist. The long pendulous Amaranth, with redish-coloured Seeds, commonly called, Love-lies-a-bleeding.

3. AMARANTHUS spica albescens habitiore. Martyn. Hist. Amaranth with a thick whitish Spike.

4. AMARANTHUS cristatus, flore rubicundissimo. H. R. Par. Cock's-comb-amaranth, with red Flowers.

5. AMARANTHUS cristatus, colore kermesino. Boerb. Carmine-coloured Cock's-comb-amaranth.

6. AMARANTHUS cristatus, colore aureo. Boerb. Gold-coloured Cock's-comb-amaranth.

7. AMARANTHUS cristatus, colore purpureo. Boerb. Purple Cock's-comb-amaranth.

8. AMARANTHUS cristatus, colore luteo. Boerb. Yellow Cock's-comb-amaranth.

9. AMARANTHUS Sinensis, foliis variis, panicula eleganter plumosa. Martyn. Hist. Chinese Amaranth, with variegated Leaves, and a fine feather'd Panicle.

10. AMARANTHUS tricolor. H. Eyst. The three-coloured Amaranth, commonly called Tricolor.

11. AMARANTHUS bicolor. The two-coloured Amaranth.

All these Sorts of Amaranths must be sown on a good Hot-bed in February, or the Beginning of March at farthest; and in about a Fortnight's time (if the Bed is in good Temper) the Plants will rise; when you must prepare another Hot-bed, covered with good rich light Earth, about four Inches thick; then raise up the young Plants with your Finger, so as not to break off the tender Roots, and prick them into your new Hot-bed about four Inches Distance every Way, giving them a gentle Watering to settle the Earth to their Roots: but in doing this, be very cautious not to bear the young Plants down to the Ground by hasty Watering, which rarely rise again, or at least so as to recover their former Strength, in a long time; but very often rot in the Stems, and die quite away.

In the Heat of the Day keep them screen'd with Mats from the great Heat of the Sun, and give them Air by raising up the Glasses with a small Stone; and if the Glasses are wet, it will be proper to turn them every Day (in good Weather) that they may dry; for the Moisture which is occasioned by the Fermentation of the Dung, and Perspiration of the Plants, is of a noxious Quality, and very unkindly to Plants; so that if the Weather happens to prove bad, that you can't turn your Glasses, it will be of great Service to your Plants to wipe off all the Moisture two or three times a Day with a woollen Cloth, to prevent its dropping upon the Plants. When your Plants are firmly rooted, and begin to grow, you must observe to give them Air every Day (more or less, as the Weather is cold or hot)

to prevent their drawing up too fast, which greatly weakens their Stems.

In about three Weeks or a Month's time, these Plants will have grown so as to meet, and will stand in need of another Hot-bed, which should be of a moderate Temper, and covered with the same rich Earth about six Inches thick, in which they should be planted (observing to take them up with as much Earth about their Roots as possible) seven or eight Inches Distance every Way, giving them some Water to settle the Earth about their Roots; but be very careful not to water them heavily, so as to bear down the Plants (as was before directed); and keep them shaded in the Heat of the Day, until they have taken fresh Roots; and be sure to refresh them often gently with Water, and give them Air in proportion to the Heat of the Weather, covering the Glasses with Mats every Night, lest the Cold chill your Beds, and stop the Growth of the Plants.

In the Beginning of *May* you must provide another Hot-bed, which should be covered with a deep Frame, that your Plants may have room to grow. Upon this Hot bed you must set as many Three-penny Pots as can stand within the Compass of the Frame: these Pots must be filled with good rich Earth, and the Cavities between each Pot filled up with any common Earth, to prevent the Heat of the Bed from evaporating, and filling the Frame with noxious Steams; then with a Trowel, or some such Instrument, take up your Plants (from the former Hot-bed) with as much Earth as possible to the Roots, and place each single Plant in the Middle of one of the Pots, filling the Pot up with the Earth before described, and settle it close to the Root of the Plant with your Hands;

water them gently, as before, and shade them in the Heat of the Day from the Violence of the Sun, by covering the Glasses with Mats; refresh them often with Water, and give them a good Quantity of Air in the Day-time.

In about three Weeks more, these Plants will have grown to a considerable Size and Strength, so that you must now raise the Glasses very much in the Day-time; and when the Air is soft, and the Sun is clouded, draw off the Glasses, and expose them to the open Air, and repeat this as often as the Weather will permit; which will harden them by degrees to be removed abroad into the Places where they are to remain the whole Season: but it is not advisable to set these Plants out until a Week in *July*, observing to do it when the Air is perfectly soft, and, if possible, in a gentle Shower of Rain.

Let them at first be set near the Shelter of an Hedge for two or three Days, where they may be screen'd from the Violence of the Sun, and strong Winds, to which they must be inured by degrees. These Plants, when grown to a good Stature, perspire very freely, and must be every Day refreshed with Water, if the Weather proves hot and dry; otherwise they will flint, and never produce their Plumes so fine as they would do if taken care of.

This is the proper Management, in order to have fine Amaranths; which, if rightly followed, and the Kinds are good, in a favourable Season will produce wonderful large fine Flowers, and are the greatest Ornament to a good Garden for upwards of two Months. By this Method, I have had Plants five or six Feet, with Crests near a Foot in Breadth; and I am persuaded, if the Kind is

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good (and there is no want of Dung or Conveniencies), in a kindly Season they will grow much larger.

In the Beginning of September the Amaranths will have perfected their Seeds, so that you must make choice of the largest, most beautiful, and least-branching Plants of each Kind for Seed; which you should remove under Shelter (especially if the Weather proves wet, or the Nights frosty), that the Seeds may be maturely ripen'd; and in the Choice thereof, be sure never to take any Seeds from Side-branches, nor from the Neck of the Plume, but such only as are produced in the Middle thereof, which in many Plants, perhaps, may be but a small Quantity; but I do assure you, they are those only you can depend upon to have your Kinds good the succeeding Year.

The *Amaranthus tricolor* and *bicolor* must be kept longer under the Frames than the Cock's-combs; and in order to have them very beautiful, it will be proper to make a fresh Hot-bed in a Glass-case; or, where such a Conveniency is wanting, to erect some of the Lights which were placed over Cucumbers, round an Hot-bed, and cover those with the same Lights on the Top, so as to resemble a Glass-stove. On this Hot-bed you should place your Amaranths, at such a Distance from each other, as to allow them room to spread; observing to refresh them often with Water, and in warm Weather let them have plenty of fresh Air. With this Management, the Plants may be raised five or six Feet high, and their Leaves will come to the most beautiful Colours; after which they may be exposed to the open Air, and removed to adorn the several Parts of the Garden.

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AMARYLLIS, Lily-daffodil.

The Characters are;

The Spatha or Cover, which incloses the Umbel, is of one Leaf: the Flower consists of six Petals or Leaves, and is of the Lily-shape, having six Stamina surrounding the Pointal: the Stigma is trifid.

The Species are;

1. AMARYLLIS *spatha uniflora*, corolla *æquali*, *staminibus declinatis*. Lin. Lily-daffodil with a single Flower in each Cover, which is equal; and declined Stamina, commonly called, Autumnal Narcissus.

2. AMARYLLIS *spatha uniflora*, corolla *æquali*, *pistillo refracto*. Lin. Lily-daffodil with a single Flower in each Sheath, which has equal Petals, and the Pointal broken off, commonly called Atamasco-lily.

3. AMARYLLIS *spatha uniflora*, corolla *inæquali*, *genitalibus declinatis*. Lin. Lily-daffodil with one Flower in each Cover, which has unequal Petals, and the Stamina are declined, commonly called Jacobæa-lily.

4. AMARYLLIS *spatha multiflora*, corollis *æqualibus patentissimis revolutis*, *genitalibus longissimis*. Lin. Lily-daffodil with many Flowers in one Cover; the Petals equal, spread open, and turned backward, and very long Stamina, commonly call'd Guernsey Lily.

5. AMARYLLIS *spatha multiflora*, corollis *campanulatis æqualibus*, *genitalibus declinatis*. Lin. Lily-daffodil with many Flowers in one Cover; the Petals equal and bell-shap'd, and the Stamina declined; commonly call'd Belladonna Lily.

6. AMARYLLIS *spatha multiflora*, foliis *ovato-oblongis obtusis*. Flor. Leyd. Lily-daffodil with many Flowers in one Cover, and oblong blunt

blunt Leaves, commonly called Mexican Lily.

7. *AMARYLLIS spatha multiflora, corollis campanulatis æqualibus, scapo compresso longitudini umbellæ.* Flor. Leyd. Lily-daffodil with many Flowers in one Cover, the Petals equal, and the Cover compressed the Length of the Umbel.

8. *AMARYLLIS spatha multiflora, corollis campanulatis æqualibus, scapo tereti ancipiti.* Flor. Leyd. Lily-daffodil with many Flowers in one Cover; the Petals equal, and the Cover taper and double-headed; commonly called the Zeylon Lily.

9. *AMARYLLIS spatha multiflora, foliis ciliatis.* Flor. Leyd. Lily-daffodil with many Flowers in one Cover, and the Edges of the Leaves hairy; commonly called the African scarlet Lily.

10. *AMARYLLIS uniflora, corolla æquali, staminibus erectis.* Lily-daffodil with one Flower in a Cover, with equal Petals, and erect Stamina; commonly called Spring yellow Lily-narcissus.

The first Sort is a very hardy Plant, and increases very fast from Off-sets. The Season for transplanting these Roots is any time from May to July, after which it will be too late to remove them; for they will begin to push out new Fibres by the Middle of that Month, if the Season be moist; and many times they flower in August; so that if they are then transplanted, it will spoil their flowering. This Plant will grow in any Soil or Situation; but it will thrive best in a fresh light dry Soil, and in an open Situation; i. e. not under the Dripping of Trees, nor too near to Walls. It is commonly called, by the Gardeners, the yellow Autumnal Narcissus, &c. and is usually sold by them with Colchicums, for autumnal

Ornaments to Gardens; for which Purpose this is a pretty Plant, as it will frequently keep flowering from the Middle of September to the Middle of November, provided the Frost is not so severe as to destroy the Flowers: for altho' there is but one Flower in each Cover, yet there is a Succession of Flowers from the same Root, especially when they are suffered to remain three or four Years unremoved. The Flowers seldom rise above three or four Inches high; so are proper Ornaments for such Borders as are planted with Cyclamens, Saffron, Colchicums, and such low autumnal Flowers.

The tenth Sort is more rare in England than any of the other; but it is as hardy as the first Sort, and may be planted in the open Borders, and treated in the same manner as the first, excepting that this will not lose its Leaves so soon; so should not be taken out of the Ground to transplant, till the End of July, or Beginning of August. This Sort flowers in April, or the Beginning of May; but is not of long Duration.

The second Sort is a Native of Virginia and Carolina, in which Countries it grows very plentifully in the Fields and Woods, where it makes a beautiful Appearance when it is in Flower, which is in the Spring. The Flowers of this Sort are produced single, and at their first Appearance have a fine Carnation-colour on their Outside; but this fades away to a pale, or almost white, before the Flowers decay. This Plant is so hardy, as to thrive in the open Air in England, provided the Roots are planted in a warm Situation, and on a dry Soil: it may be propagated by Off-sets from the Roots, which they put out pretty

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pretty plentifully, especially if they are not transplanted oftener than once in three Years. The Flowers of this Sort are almost as large as those of the small Orange-lily, but do not grow above six or eight Inches high; they appear the Latter-end of *May*, or Beginning of *June*, and sometimes in *August*.

The third Sort, which is commonly call'd *Jacobæa* Lily, is now become pretty common in the curious Gardens in *England*, the Roots sending forth plenty of Off-sets, especially when they are kept in a moderate Warmth in Winter: for the Roots of this kind will live in a good Green-house, or may be preserved thro' the Winter under a common Hot-bed-frame; but then they will not flower so often, nor send out so many Off-sets, as when they are placed in a moderate Stove in Winter. This Sort will produce its Flowers two or three times in a Year, and is not regular to any Season; but from *March* to the Beginning of *September* the Flowers will be produced when the Roots are in Vigour. The Stems of these Flowers are produced from the Sides of the Bulbs; so that after the Flowers produced on one Side are decayed, there is another Stalk arises from the other Side of the Bulb; but there are rarely more than two Flowers produced on the same Stalk. These Flowers are large, and of a very deep Red; the under Petals (or Flower-leaves) are very large; and the whole Flower stands nodding on one Side of the Stalk, making a beautiful Appearance. This should be called the *Mexican* Lily, rather than the other, so named by the Gardeners; this being a Native of *Mexico*, whereas the other is common to all the Islands in the *West-Indies*.

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It is propagated by Off-sets, which may be taken off every Year: the best time to shift and part these Roots is in *August*, that they may take good Root before Winter: in doing of this, there should be care taken not to break off the Fibres from their Roots. They should be planted in Pots of a middling Size, fill'd with light Kitchen-garden Earth; and if they are kept in a moderate Degree of Warmth, they will produce their Flowers in plenty, and the Roots will make great Increase.

The sixth Sort, which is commonly called the *Mexican* Lily, is not quite so hardy as the former Sort, so must be placed in a warm Stove; and if the Pots are plunged into an Hot-bed of Tanners Bark, the Roots will thrive better, and the Flowers will be strong. This Sort is increased by Off-sets, as the others of this Tribe; and it flowers usually the Beginning of Spring, when it makes a fine Appearance in the Stove: it is known in the *West-Indies* by the Name of Red Lily.

The eighth Sort is also tender, and must be treated in the same manner as the sixth: this is more common in the Gardens in *Holland* than in this Country; and as it is a Plant which increases but slowly, will not be very common here. This flowers usually in *June* and *July*; but the Flowers are not of long Duration.

The seventh and ninth Sorts are more hardy, and may be treated in the same manner as the *Jacobæa* Lily: these will increase pretty fast by Off-sets, when they are properly managed. These Sorts usually flower in Winter, if they are placed in a moderate Stove; and as at that Season there are few Flowers in the open Air, so these are more valuable on that account.

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All these bulbous-rooted Flowers delight in a loose sandy Earth, mix'd with good Kitchen-garden Mould; and in the Culture of them there should be but little Water given them at those times when their Leaves decay, and the Roots are not in a growing State; for much Moisture at that time will often cause them to rot: but when they are growing, and putting out their Flower-stems, they should be frequently refreshed with Water, but not given in too great Quantities at a time. The Pots should constantly be kept in the Stove; but in Summer they should have as much free Air as possible: for altho' some of these Sorts may be kept abroad in Summer, yet those do not thrive so well, nor flower so constantly, as those which are treated in the manner here described.

The fifth Sort, which is called the *Belladonna* Lily, was brought to *England* from *Portugal*, where the Gardens abound with these Flowers; for the Roots increase very fast, especially in such Countries where they live in the open Air. The Gardens in *Italy* have also great Quantities of these Flowers, especially about *Florence*; where, at the Season of their flowering, they are commonly sold in the Markets to adorn their Rooms: the *Italians* call it *Narcissus Belladonna*. This Plant thrives so well in *Italy*, as to need no other Culture than the common Lily; and altho' it does not flower until *August*, yet it commonly produces good Seeds in that Country, from which they propagate them in great plenty; but with us they require to be planted in Pots fill'd with light fresh Earth, and in Winter they must be shelter'd, to prevent their Leaves from being destroy'd by the Frost, which, if it does not quite kill their

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Roots, will so weaken them, as that they will not recover Strength to flower in several Years after, tho' you should attend them with ever so much Care. This Plant produces its Flowers in *September*, and the green Leaves come up soon after, and abide all the Winter and Spring until *May*, at which time they decay, soon after which the Roots should be transplanted; for if they are let stand till *July*, they will have set forth new Fibres, when it will greatly injure the Roots, if they are disturb'd. If some of these Roots are planted in a warm Border, close to a South Wall, and on a dry Soil, they will thrive very well, especially if they are covered in severe Frost; and these Roots will flower much stronger than those which are kept in Pots, and will multiply faster.

The fourth Sort is supposed to come originally from *Japan*; but has been many Years cultivated in the Gardens of *Guernsey* and *Jersey*; in both which Places they seem to thrive as well as if it was their native Country; and from those Islands their Roots are sent annually to the Curious in most Parts of *Europe*, and are commonly called *Guernsey* Lilies. The Roots of this Plant are generally brought over in *July* and *August*; but the sooner they are taken out of the Ground after their Leaves decay, they are the better: for altho' the Roots which are taken up when their Flower-stems begin to appear, will flower, yet their Flowers will not be so large, nor will their Roots be near so good after, as those which were removed before they had sent out fresh Fibres.

When these Roots come over, they should be planted in Pots fill'd with fresh light sandy Earth, mix'd with a little very rotten Dung, and plac'd

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plac'd in a warm Situation, observing now-and-then to refresh the Earth with Water: but by no means let them have too much Wet, which would rot their Roots, especially before they come up. About the Middle or End of *August*, such of the Roots as are strong enough to flower, will begin to shew the Bud of their Flower-stem (which is commonly of a red Colour); therefore you should remove these Pots into a Situation where they may have the full Benefit of the Sun, and may be shelter'd from strong Winds: but by no means place them too near a Wall, nor under Glasses, which would draw them up weak, and render them less beautiful. At this Season they should be gently refresh'd with Water, if the Weather be warm and dry; but if it should prove very wet, they should be screen'd from it.

When the Flowers begin to open, the Pots should be remov'd under Shelter, to prevent the Flowers from being injur'd by too much Wet: but they must not be kept too close, nor placed in a Situation too warm, which would occasion their Colour to be less lively, and hasten their Decay. The Flowers of this Plant will continue in Beauty (if rightly manag'd) a full Month; and tho' they have no Scent, yet, for the Richness of their Colour, they are justly esteemed in the first Rank of the flowery Race.

After the Flowers are decay'd, the green Leaves will begin to shoot forth in Length, and, if shelter'd from severe Cold, will continue growing all the Winter; but they must have as much free Air as possible in mild Weather, and be cover'd only in great Rains or Frosts; for which Purpose, a common Hot-bed-frame is the properest Shelter for them;

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under which if they are placed, the Glasses may be taken off constantly every Day in dry open Weather, which will encourage the Leaves to grow strong and broad; whereas, when they are placed in a Greenhouse, or not exposed to the open Air, they will grow long and slender, and have a pale weak Aspect, whereby the Roots will become weak, so that it seldom happens that they produce Flowers under such Management.

These Roots should be transplanted every fourth or fifth Year toward the Latter-end of *June*, or the Beginning of *July*, and planted into fresh Earth; but they should not be oftener removed; for that would retard their flowering. The Off-sets should also be taken off, and planted into several Pots, which, in three Years time, will produce Flowers; so that after a Person is once stock'd with these Roots, they may increase them, so as to have a Supply of blowing Roots, without being at the Trouble or Expence of sending to *Guernsey* every Year for fresh Roots; and the Roots preserved here will flower stronger than those which are usually brought from thence: for the Inhabitants of those Islands are not very curious in cultivating these Roots: their usual Method is to plant them at a great Distance in a Bed of common Earth, where they let them remain for many Years: in which time they produce such a Number of Off-sets, that many times one single Cluster has contain'd above an hundred Roots; by which means, those which grow on the Inside are so much compressed by the outer Roots, that they are perfectly flatted; and from the Number of Roots they are all render'd weak, and so unfit to produce such large Stems of Flowers, as those which

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which have grown single, and are of a spherical Figure.

AMBROSIA.

The Characters are ;

It hath Male flosculous Flowers, which are produced on separate Parts of the same Plant from the Fruit, and have no visible Petals: the Fruit, which succeeds the Female Flowers, is shaped like a Club, and is prickly, containing one oblong Seed in each.

The Species are ;

1. AMBROSIA *maritima*. C. B. The maritime, or Sea-ambrosia.

2. AMBROSIA *maritima, artemisæ foliis inodoris, elatior*. H. L. Taller unfavoury Sea-ambrosia.

3. AMBROSIA *Canadensis altissima birsuta, platani folio*. Tourn. The tallest Canada Ambrosia, with rough Plane-tree-leaves.

The first of these Sorts may be sown early in the Spring, in a Border under a warm Wall or Pale, where it will come up very well ; and when the Plants are strong enough to remove, they may be planted into the like warm Borders, where they will flower, and perfect their Seeds in Autumn ; but if they have not a good Position, they seldom produce good Seeds in this Country.

The second Sort is very common in the *West-Indies*, where it grows as a Weed, and is seldom regarded by the Inhabitants ; but in *Europe* it is preserved in the Gardens of the curious for Variety. This Plant frequently comes up in the Earth which is brought over from *Barbados*, and the other Islands ; and if the Plants are brought forward in the Spring, they will perfect their Seeds very well.

The Seeds of this Plant should be sown on a moderate Hot-bed in *March* ; and when the Plants are come up two Inches high, they must be transplanted into another mode-

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rate Hot-bed, allowing each Plant three or four Inches square ; observing to water them pretty well, and shade them until they have taken new Root. When the Plants are grown pretty strong, they must be taken up with Balls of Earth to their Roots, and planted in large Pots fill'd with rich Earth ; and if they are plac'd on a very moderate Hot-bed until they are well rooted, it will greatly forward their flowering. Toward the Latter-end of *May* they should be plac'd abroad with other hardy annual Plants, among which they will make a Variety.

The third Sort is a Native of *North-America*, where it is a very common Weed. This often grows eight or ten Feet high ; and if it is planted in a rich moist Soil, or is often watered, it will grow much higher, and spread out into many Branches. The Seeds of this Plant, when sown in the Spring, seldom come up the first Year, but frequently remain in the Ground until the following Spring ; so that when the Plants do not come up, the Ground must not be disturb'd till after the Spring following, to wait for the Plants coming up. When the Plants come up, some of them may be transplanted into a moist rich Soil, allowing them at least four or five Feet room every Way, and they should be shaded until they have taken new Root ; and if they are frequently watered in dry Weather, they will grow to a large Size ; but their Branches must be supported by Stakes, otherwise they are very subject to break with strong Winds. The Flowers of this Plant are not more conspicuous than those of the Hemp, to which this is near a-kin ; therefore is only preserved by such Persons as are curious in

Botany,

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Botany, for the sake of Variety. If the Seeds of this Sort are suffered to scatter, the Plants will come up the following Spring, provided the Ground is not disturbed; and if the Seeds are sown in Autumn, the Plants will come up the following Spring.

AMMI, Bishops-weed.

The Characters are;

This is an umbelliferous Plant, with small striated Seeds: the Petals of the Flower are unequal, and shaped like an Heart.

The Species are;

1. AMMI majus. C. B. The greater Bishops weed.

2. AMMI majus, foliis plurimum incis, & nonnihil crispis. C. B. The greater Bishops-weed, with fine cut Leaves.

3. AMMI perenne. M. Um. Perennial Bishops-weed.

The Seeds of the first and second Kinds should be sown in an open Situation early in the Spring; and when the Plants are young, they may be prick'd out into Beds of a sandy Soil, at about six Inches Distance from each other, observing to water them until they have taken fresh Root; after which time they will require no more Care, but to keep them clear from Weeds; and, if the Season prove good, they will ripen their Seeds in Autumn: or they may be sown thin on a large Bed; and when the Plants are come up, where they are too thick, they may be hoed out, as is practised for Carrots, Onions, &c.

The Seeds of the first Sort are used in Medicine: the second is a Variety of the first, which is accidental from the same Seeds: the third is an abiding Plant, which multiplies very fast by its Root, which is very apt to spread far underground, for which Reason it should

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never be planted in a good Garden. These are all Varieties fitter for a Botanic or Physic-garden, than for Gardens of Pleasure.

AMOMUM PLINII. Vide Solanum.

AMORIS POMUM. Vide Lycopersicon.

AMYGDALUS, The Almond-tree.

The Characters are;

It hath Leaves and Flowers very like those of the Peach-tree; but the Fruit is longer, and more compressed: the outer green Coat is thinner and drier when ripe, and the Shell is not so rugged.

The Species are;

1. AMYGDALUS sativa, fructu majore. C. B. P. The common large Almond.

2. AMYGDALUS dulcis, putamine molliori. C. B. P. The sweet Almond, with tender Shells.

3. AMYGDALUS amara. C. B. P. The bitter Almond.

4. AMYGDALUS sativa, flore albo. The white-flowering Almond.

The first, second, and third Sorts are chiefly cultivated in England for the Beauty of their Flowers, which are produced early in the Spring, when few other things appear; which renders them worthy of a Place in the best Gardens, where being intermixed with other flowering Trees, either in Wilderness-quarters, or in Walks, they make a very fine Appearance.

They are propagated by inoculating a Bud of these Trees into a Plum, Almond, or Peach-stock, in the Month of July (the Manner of this Operation see under the Article of Inoculation). The next Spring, when the Buds shoot, you may train them up either for Standards, or suffer them to grow for half Standards (according to your own Fancy);

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tho' the usual Method, is to bud them to the Height the Stems are intended to be; and the second Year, after budding, they may be removed to the Places where they are to remain. The best Season for transplanting these Trees (if for dry Ground) is in *October*, as soon as the Leaves begin to decay; but for a wet Soil, *February* is much preferable; and observe always to bud upon Plum-stocks, for wet Ground; and Almonds or Peaches, for dry.

The Almond with white Flowers is a greater Curiosity than either of the former; and, being intermix'd with the other Sorts, and a few of the Cherry-plum-trees, which flower all together, adds very much to the Beauty of these Plantations: this Sort with white Flowers is more difficult to increase than either of the former, and will not take upon a Plum-stock, but must be either budded on a Peach or Almond.

The Sort with large Fruit produces almost every Year large Quantities with us in *England*, which, if eaten before they are too dry, are little inferior to those we receive from abroad; but if kept too long, they are very apt to shrivel up, and lose their Plumpness; but in other respects are very good.

The *Jordan* Almonds, which are annually brought to *England*, seem to be the same with the white-flowering, by some Plants which I have raised from the Nuts, which retain the same Appearance in Leaf and Shoot, as those with white Flowers; but they have not as yet flowered with me, altho' the Trees are grown to a large Size.

The bitter and sweet Almonds are only Varieties, which will come from the same Seeds; but there is a manifest Difference between these and the white-flowering Sort, both

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in Leaf and Shoot, so as to be distinguished thereby at all Seasons; yet by later Botanists they are made but one Species.

The white Sort, coming out earlier in the Spring than the other, is in greater Danger of suffering from the Frost in the Spring, whereby few Fruit are ever seen upon the Trees in this Country.

ANACAMPSEROS, *Telephium*, or *Rhodia Radix*; in English, Orpine, Live-ever, or Rose-root.

The Characters are;

It hath a perennial Root: the Leaves, Stalks, Flowers, and Fruit, are like those of the House-leek; but the Leaves of this Plant do not grow in a circumscribed Order, as those of the House-leek; but the Plant arises with a Stalk, upon which the Leaves are plac'd on every Side: the Flowers grow in Umbels, upon the Tops of the Stalks.

The Species are;

1. ANACAMPSEROS, *vulgo Faba crassa*. *J. B.* 3. 681. Common Orpine.

2. ANACAMPSEROS *purpurea*. *J. B.* 3. 682. Purple Orpine.

3. ANACAMPSEROS *maxima*. *J. B.* 3. 682. Greatest Orpine.

4. ANACAMPSEROS *Lusitanica hœmatodes maxima*. *Tourn.* The greatest red Portugal Orpine.

5. ANACAMPSEROS *radice rosam spirante, major*. *Tourn.* 264. Greater Rose-root.

6. ANACAMPSEROS *radice rosam spirante, minor*. *Tourn.* 264. Lesser Rose-root.

7. ANACAMPSEROS *foliis eleganter variegatis*. Orpine with striped Leaves.

8. ANACAMPSEROS *minor, rotundiore folio, semper-virens*. *J. B.* Small ever-green Orpine, with a rounder Leaf.

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9. *ANACAMPSEROS minor, longiore folio, semper-virens. Tourn.* Small ever-green Orpine, with a longer Leaf.

10. *ANACAMPSEROS portulacæ folio. Tourn.* Orpine with a Purslane-leaf.

11. *ANACAMPSEROS flore purpurascente, foliis rarioribus. Tourn.* Orpine with a purplish Flower, and thin-set Leaves.

12. *ANACAMPSEROS Orientalis, portulacæ folio. Tourn. Cor.* Eastern Orpine, with a Purslane-leaf.

13. *ANACAMPSEROS Orientalis, folio subrotundo minori eleganter crenato. Tourn. Cor.* Eastern Orpine, with a small roundish Leaf, finely notched.

14. *ANACAMPSEROS flore albo, supina. Tourn.* Low Orpine, with a white Flower.

The first Sort grows wild in many Parts of *England*; which is the Sort sometimes used in Medicine, and which was some Years since in great Esteem to form green Chimney-pieces for the Summer-season, which some People were very dextrous in making, by framing a Parcel of Laths together of the just Dimensions of the Place where it was to stand; and then fastening this Plant to the several Parts of it, so as to cover the Whole with Green: and altho' this was only performed with Cuttings of the Plant, yet by giving the Whole a gentle Watering once a Week, the Plant would not only live, but shoot in Length, and continue fresh for two Months, and appear very handsome.

The other Sorts are seldom propagated but in Botanic Gardens, for the sake of Variety. They are all of them very hardy Plants; but they must have a dry Soil; for they are subject to rot, if they have too

much Moisture. They may be all of them propagated by Cuttings any time in Summer (except the fifth and sixth Sorts, which are only propagated by parting of their Roots); as may also any of the other Sorts. The best time to part their Roots is in *October*, when their Shoots decay, or *February*, before they begin to shoot; for the fifth and sixth Sorts put out their Flowers very early in the Spring. These two Sorts do not grow above six Inches high, and have thick strong Shoots, on the Top of which the Flowers are produced in Clusters. The Roots of these Plants smell like dried Roses; from whence they had the Name of Rose-root.

The eighth and ninth Sorts are ever-green: these put out slender Shoots about one Foot long, the upper Part of which are garnished with Leaves, which are of a glaucous Colour. These two Sorts are very proper Plants for Rock-work, where, if they are planted between the Stones or Shells, they will thrive very well, and have a very good Effect. These may be easily propagated by Slips, which may be planted any time of the Year, except in frosty Weather.

ANAGALLIS, Pimpernel.

The Characters are;

The Flower consists of one Leaf, is shaped like a Wheel, and is cut into several Segments: the Pointal, which is fixed like a Nail in the Middle of the Flower, afterward becomes a round Fruit, which, when ripe, opens transversely into two Parts, one of which lies incumbent on the other, inclosing many angular Seeds.

The Species are;

1. *ANAGALLIS phœniceo flore.* C. B. P. Male Pimpernel, with a red Flower.

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2. *ANAGALLIS cæruleo flore.* C. B. P. Female Pimpernel, with a blue Flower.

3. *ANAGALLIS floribus obsolete purpureis.* Park. Theat. Pimpernel with Flowers of a worn-out purple Colour.

4. *ANAGALLIS flore albo.* C. B. P. Pimpernel with a white Flower.

5. *ANAGALLIS tenuifolia* Monelli. Clus. Narrow-leav'd Pimpernel, with a blue Flower.

The first Sort is very common in Corn-fields, and other cultivated Places, in most Parts of *England*. The second and third Sorts are sometimes found wild in the Fields, but are less common than the first in *England*. The fourth is a Variety of the second Sort, which is accidental.

These are all annual Plants, which arise from Seeds, and, if suffered to remain till their Seeds scatter, will become Weeds in the Place; so that they are never cultivated, except in Botanic Gardens for Variety. The first and second Sorts are directed by the *College of Physicians* for medicinal Use.

The fifth Sort is a very beautiful small Plant, producing great Numbers of fine blue Flowers, in *May* and *June*: this may be propagated by Seeds, which should be sown soon after they are ripe; for if they are kept till Spring, they do not always succeed: these Plants require to be sheltered from extreme Cold, which will sometimes destroy them: they are also propagated by Cuttings.

ANAGYRIS, Stinking Bean-trefoil.

The Characters are;

It hath a papilionaceous (or Butterfly) Flower, whose Standard is short when compared to the other Petals: the Pointal, which rises from

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the Flower-cup, afterward becomes a Pod shaped like a Kidney-bean, containing many kidney-shaped Seeds: to which Notes should be added, The Leaves grow by Threes on one common Footstalk.

The Species are;

1. *ANAGYRIS fætida.* C. B. Stinking Bean-trefoil.

2. *ANAGYRIS fætida Cretica, oblongis foliis, luteis floribus.* Barr. Icon. Candy stinking Bean-trefoil, with oblong Leaves, and yellow Flowers.

The first Sort grows wild in the South of *France*, as also in *Spain* and *Italy*: this is a Shrub which usually rises to the Height of eight or ten Feet, and produces its Flowers in *April* and *May*, which are of a bright-yellow Colour, growing in Spikes, somewhat like those of the *Laburnum*: the Seeds are seldom perfected in this Country, which is the Reason of its present Scarcity in *England*.

The other Sort is a Native of *Candy*, and some of the Islands of the *Archipelago*; and at present is very rare in the *English* Gardens. This Sort hath longer Leaves than the former, and flowers later in the Summer, so that it very rarely produces Seeds.

These may be both propagated by laying down their tender Branches in the Spring, observing in dry Weather to supply them with Water, which if duly performed, the Layers will have taken Root by the following Spring, when they should be cut off from the old Plants, a little time before they begin to put out their Leaves, and planted in a warm Situation; for if they are too much exposed to cold Winds, they will be in Danger of being destroyed in an hard Winter. This Method of propagating these Plants is, to supply

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their Defect in not producing ripe Seeds in this Country; for the Plants which are produced from Seeds, will be much handsomer, and will rise to a much greater Height.

If you propagate these Plants from Seeds, you should sow them on a warm Border of light fresh Earth, toward the End of *March*, observing always to do it in dry Weather; for if much Wet should fall after the Seeds are in the Ground, they will rot. If the Seeds are good, and the Season favourable, the Plants will appear in a Month after the Seeds are sown; at which time you should carefully clear them from Weeds; and in very dry Weather they should be frequently refreshed with Water: if these Rules be duly observed, the Plants will be six or eight Inches high before Winter. While these Plants are young, they will be in much greater Danger of suffering by Frost; therefore, if the Winter should prove very severe, you should shelter them with Mats during the Continuance of the Frost; but in mild Weather they should be exposed to the open Air. In *March* following you should carefully take up these Plants, observing not to injure their Roots; then you must transplant them into a Nursery-bed, placing them in Rows at a Foot Distance, and the Plants at six Inches Distance in the Rows, observing, if the Season should prove dry, to give them Water until they have taken new Root; after which time they will require no other Culture, but to keep them clear from Weeds, during the Summer-season; but if the following Winter should prove very severe, it will be proper to screen them either with Mats or Peas-haulm, otherwise they may be destroyed. In this Bed they may remain two Years, by which time

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they will be fit to transplant into the Places where they are designed to remain. The best Season to remove them is in *March*, just before they begin to shoot; and observe not to injure their Roots, as also to water them, if the Season should prove dry, until they have taken Root; as also to lay some Mulch on the Surface of the Ground about their Roots, to prevent the Air from penetrating to dry their Fibres, which will save much Trouble in watering. The fourth Year from Seeds these Plants will begin to produce their Flowers, and will continue to produce Flowers every Year after; so will be very proper to intermix with other flowering Shrubs of the same Growth.

ANANAS, The Pine-apple.

The Characters are;

It hath a Flower consisting of one Leaf, which is divided into three Parts, and is funnel-shaped: the Embryoes are produced in the Tubercles: these afterward become a fleshy Fruit full of Juice: the Seeds, which are lodged in the Tubercles, are very small, and almost kidney-shaped.

The Species are;

1. *ANANAS aculeatus, fructu ovato, carne albida. Plum.* Oval-shaped Pine-apple, with a whitish Flesh.

2. *ANANAS aculeatus, fructu pyramidato, carne aurea. Plum.* Pyramidal Pine-apple, with a yellowish Flesh, called the Sugar-loaf pine.

3. *ANANAS folio vix serrato. Boerb. Ind. Alt. 2. 83.* Pine-apple with smooth Leaves.

4. *ANANAS lucide virens, folio vix serrato Hort. Elth.* Pine apple with shining-green Leaves, and scarce any Spines on their Edges.

5. *ANANAS fructu pyramidato olivæ colore, intus aureo.* Pyramidal olive-colour'd Pine-apple, with a yellow Flesh.

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6. *ANANAS aculeatus, fructu pyramidato ex viridi flavescente.* The green Pine-apple.

There are several other Varieties of this Fruit, some of which may have been obtained from Seeds; and I doubt not but if the Seeds were sown frequently, in the Countries where they are in Plenty, there may be as great Variety of these Fruit, as there are of Apples or Pears in *Europe*. And this I have found true by some Trials which I have made by sowing of the Seeds, which have always produced a Variety of Sorts from the Seeds of the same Fruit.

This Fruit (which is justly esteemed for the Richness of its Flavour, as it surpasses all the known Fruits in the World) is produced from an herbaceous Plant, which hath Leaves somewhat resembling those of the Aloe; and are, for the most part, sawed on their Edges; but are much thinner, and not so juicy as the Aloe: the Fruit resembles the Cones of the Pine-tree, from whence it is supposed to have its Name.

Where this Plant is a Native, I believe it is hard to determine; but it is probably an indigenous Plant in *Africa*, where, I have been informed, they grow in uncultivated Places in great Plenty. They have been long cultivated in the hottest Islands of the *West-Indies*, where they are in great Plenty, and extraordinary Goodness; but it hath been very lately that it was introduced into the *European* Gardens, so as to produce Fruit: the first Person who succeeded in this Affair, was Monsieur *Le Cour*, of *Leyden* in *Holland*, who, after a great many Trials, with little or no Success, did, at length, hit upon a proper Degree of Heat and Management, so as to produce Fruit equally as

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good (tho' not so large) as those which are produced in the *West-Indies*, as hath been often affirmed by Persons who have lived many Years there: and it is to this worthy Cultivator of Gardening, who did not spare any Pains or Expence to accomplish it, that all the Lovers thereof are obliged, for introducing this King of Fruits among them: and it was from him that our Gardens in *England* were first supplied; tho' we have since had large Quantities brought from *America*. I can't here avoid taking notice of a common Error which prevails amongst many People, which is, that the Plants brought from *America* are not so good as those which came from *M. Le Cour*: but it is a great Mistake; for were the People who send over these Plants from *America* careful to send the best Kinds, there would be found many better Kinds than those cultivated by *M. Le Cour*, who had his from thence at first, as his Gardener assured me; and I have seen as good Fruit produced from *American* Plants, as any I have yet seen, and some much larger than any I saw in *M. Le Cour's* Garden.

The first Sort is the most common in *Europe*; but the second Sort is much preferable to it, the Fruit of this being larger, and much better flavoured: the Juice of this Sort is not so astringent as is that of the first, so that this Fruit may be eaten in greater Quantity, with less Danger. This Sort generally produces six or seven Suckers, immediately under the Fruit, whereby it may be increased much faster than the common Sort; so that in a few Years it may be the most common Sort in *England*.

The third Sort is preserved by some curious Persons, for the sake of Variety; but the Fruit is not

worth any thing. The sixth Sort is at present the most rare in *Europe*, there being very few of the Plants at present: this is esteemed the best Sort yet known, by some of the most curious Persons in *America*, who have thrown out all the other Sorts from their Gardens, and cultivate only this Kind. The Plants of this Sort may be procured from *Barbados* and *Montserrat*, in both which Places it is cultivated.

The Sort with very smooth grass-green Leaves, was raised from Seeds taken out of a rotten Fruit, which came from the *West-Indies* to the late *Henry Heathcote, Esq;* from whom I received one Plant, which hath produced large Fruit: this, I am told, is what the People of *America* call the King-pine. I have since raised some Plants of this Kind from Seeds, which were brought me from *Jamaica*.

These Plants are propagated by planting the Crowns which grow on the Fruit, or the Suckers which are produced either from the Plants, or under the Fruit; either of which I have found to be equally good; altho' by some Persons the Crown is thought preferable to the Suckers, as supposing it will produce Fruit sooner than the Suckers, which is certainly a Mistake; for by constant Experience I find the Suckers (if equally strong) will fruit as soon, and produce as large Fruit, as the Crowns.

The Suckers and Crowns must be laid to dry in a warm Place, for four or five Days, or more (according to the Moisture of the Part which adher'd to the old Plant or Fruit); for if they are immediately planted, they will rot. The certain Rule of judging when they are fit to plant, is by observing if the Bottom is healed over, and become hard; for

if the Suckers are drawn off carefully from the old Plants, they will have an hard Skin over the lower Part; so need not lie so long as those which by Accident may have been broken. But whenever a Crown is taken from the Fruit, or the Suckers from old Plants, they should be immediately divested of their Bottom-leaves, so high as to allow Depth for their planting; so that they may be thoroughly dry and healed in every Part, lest, when they receive Heat and Moisture, they should perish, which often happens when this Method is not pursued. If these Suckers or Crowns are taken off late in Autumn, or during the Winter, or early in the Spring, they should be laid in a dry Place in the Stove, for a Fortnight or three Weeks before they are planted; but in the Summer-season they will be fit for planting in three or four Days.

As to the Earth in which these should be planted; if you have a rich good Kitchen-garden Mould, not too heavy, so as to detain the Moisture too long, nor over-light and sandy, it will be very proper for them without any Mixture: but where this is wanting, you should procure some fresh Earth from a good Pasture; which should be mixed with about a third Part of rotten Neats-dung, or the Dung of an old Melon or Cucumber-bed, which is well consumed. These should be mixed six or eight Months at least before they are used; but if it be a Year, it will be the better; and should be often turned, that their Parts may be the better united, as also the Clods well broken. This Earth should not be screened very fine; for if you only clear it of the great Stones, it will be better for the Plants than when it is made too fine. You should always avoid mix-

ing any Sand with the Earth, unless it be extremely stiff; and then it will be necessary to have it mixed at least six Months, or a Year, before it is used; and it must be frequently turned, that the Sand may be incorporated in the Earth, so as to divide its Parts: but you should not put more than a sixth Part of Sand; for too much Sand is very injurious to these Plants.

In the Summer-season, when the Weather is warm, these Plants must be frequently watered; but you should not give them large Quantities at a time: you must also be very careful, that the Moisture is not detained in the Pots, by the Holes being stopp'd; for that will soon destroy the Plants. If the Season is warm, they should be watered every other Day; but in a cool Season, twice a Week will be often enough: and during the Summer-season, you should once a Week water them gently all over their Leaves; which will wash the Filth from off them, and thereby greatly promote the Growth of the Plants.

There are some Persons who frequently shift these Plants from Pot to Pot: but this is by no means to be practised by those who propose to have large well-flavour'd Fruit; for unless the Pots be filled with the Roots, by the time the Plants begin to shew their Fruit, they commonly produce small Fruit, which have generally large Crowns on them: so that the Plants will not require to be new-potted oftener than twice in a Season: the first time should be about the End of *April*, when the Suckers and Crowns of the former Year's Fruit (which remained all the Winter in those Pots in which they were first planted) should be shifted into larger Pots; *i. e.* those which were in Halfpeny

or Three-farthing Pots, should be put into Penny, or, at most, Three-halfpeny Pots, according to the Size of the Plants; for you must be very careful not to over-pot them, nothing being more prejudicial to these Plants. The second time for shifting of them is, toward the Latter-end of *August*, or the Beginning of *September*, when you should shift those Plants which are of a proper Size for fruiting the following Spring, into Two-penny Pots, which are full large enough for any of these Plants. At each of these times of shifting the Plants, the Bark-bed should be stirred up, and some new Bark added, to raise the Bed up to the Height it was at first made; and when the Pots are plunged again into the Bark-bed, the Plants should be watered gently all over their Leaves, to wash off the Filth, and to settle the Earth to the Roots of the Plants. If the Bark-bed be well stirred, and a Quantity of good fresh Bark added to the Bed, at this latter shifting, it will be of great Service to the Plants; and they may remain in the Tan until the Beginning of *November*, or sometimes later, according to the Mildness of the Season; and will not require any Fire before that time. During the Winter-season these Plants will not require to be watered oftener than every third or fourth Day, according as you find the Earth in the Pots to dry: nor should you give them too much at each time; for it is much better to give them a little Water often, than to over-water them, especially at that Season.

You must observe never to shift those Plants which shew their Fruit, into other Pots; for if they are removed after the Fruit appears, it will stop the Growth, and thereby cause the Fruit to be smaller, and re-

tard its ripening; so that many times it will be *October* or *November* before the Fruit is ripe: therefore you should be very careful to keep the Plants in a vigorous growing State, from the first Appearance of the Fruit, because upon this depend the Goodness and Size of the Fruit; for if they receive a Check after this, the Fruit is generally small, and ill-tasted.

When you have cut off the Fruit from the Plants, whose Kind you are desirous to propagate, you should trim the Leaves, and plunge the Pots into a moderate Hot bed; observing to refresh them frequently with Water, which will cause them to put out Suckers in Plenty; so that a Person may be soon supplied with Plants enough of any of the Kinds, who will but observe to keep the Plants in Health.

There is not any thing which can happen to these Plants, of a more dangerous Nature, than to have them attacked by small white Insects, which appear at first like a white Mildew, but soon after have the Appearance of Lice: these attack both Root and Leaves at the same time; and, if they are not soon destroyed, will spread over a whole Stove in a short time; and in a few Weeks will intirely stop the Growth of the Plants, by sucking out the nutritious Juice, so that the Leaves will appear yellow and sickly, and have generally a great Number of yellow transparent Spots all over them. These Insects, after they are fully grown, appear like Bugs; and adhere so closely to the Leaves, as not to be easily washed off, and seem as if they had no Life in them. They were originally brought from *America* upon the Plants which were imported from thence, and I believe

they are the same Insects which have destroyed the Sugar canes of late Years in some of the *Leeward Islands*. Since they have been in *England*, they have spread greatly in such Stoves, where there has not been more than ordinary Care taken to destroy them. They have also attacked the Orange-trees in many Gardens near *London*, and have done them incredible Damage; but I do not find they will endure the Cold of our Climate in Winter, so that they are never found on such Plants as live in the open Air. The only Method I have yet been able to discover for destroying these Insects, is, by washing the Leaves, Branches, and Stems, of such Plants as they attack, frequently with Water, in which there has been a strong Infusion of Tobacco-stalks, which I find will destroy the Insects, and not prejudice the Plants. But this Method cannot be practised on the *Ananas* Plants, because these Insects will fasten themselves so low between the Leaves, that it is impossible to come at them with a Sponge to wash them off; so that if all those which appear to Sight are cleared off, they will soon be succeeded by a fresh Supply from below; and the Roots will be also equally infested at the same time. Therefore, where-ever these Insects appear on the Plants, the safest Method will be, to take the Plants out of the Pots, and clear the Earth from the Roots; then prepare a large Tub, which should be filled with Water, in which there has been a strong Infusion of Tobacco-stalks; into this Tub you should put the Plants, placing some Sticks cross the Tub, to keep the Plants immersed in the Water. In this Water they should remain twenty-four Hours; then take them out, and with

with a Sponge wash off all the Insects from the Leaves and Roots, which may be easily effected when the Insects are killed by the Infusion; then cut off all the small Fibres of the Roots, and dip the Plants into a Tub of fair Water, washing them therein, which is the most effectual Way to clear them from the Insects. Then you should pot them in fresh Earth, and having stirred up the Bark-bed, and added some new Tan to give a fresh Heat to the Bed, the Pots should be plunged again, observing to water them all over the Leaves (as was before directed); and this should be frequently repeated during the Summer-season; for I observe these Insects always multiply much faster where the Plants are kept dry, than in such Places where the Plants are duly watered, and kept in a growing State. And the same is also observed in *America*; for it is in long Droughts that the Insects make such Destruction of the Sugar-canes. And in those Islands where they have had several very dry Seasons of late, they have increased to such a Degree, as to destroy the greatest Part of the Canes in the Islands, rendering them not only unfit for Sugar, but so poison the Juice of the Plant, as to disqualify it for making Rum; so that many Planters have been ruined by these Insects.

As these Insects are frequently brought over from *America* on the Ananas Plants, which come from thence; those Persons who procure their Plants from thence, should look carefully over them when they receive them, to see they have none of these Insects on them; for if they have, they will soon be propagated over all the Plants in the Stove where they are placed: therefore, when-

ever they are observed, the Plants should be soaked (as was before directed) before they are planted into Pots.

It was formerly the common Practice of most Persons, who cultivated this Fruit in *Europe*, to build dry Stoves, in which they placed their Plants in Winter, putting the Pots on Scaffolds (after the manner in which Orange-trees are placed in a Green-house), and in the Summer to keep them in Hot-beds of Tanners Bark under Frames: but this is found, by late Experience, a bad Method; for the Glasses lying so near over the Plants, there is not a sufficient Quantity of Air in the Bed to nourish the Fruit, and give it that vinous Flavour with which good Fruit always abounds; and when these Glasses are closely shut down in the Night, the Vapours which arise from the Fermentation of the Tan, and the Perspiration of the Plants, are closely pent in, and being condensed against the Glasses, fall in Water on the Plants.

Therefore, to remedy this Inconvenience, it is now the Practice of those Persons who are desirous to propagate this Fruit, to erect low Stoves, with Pits therein for the Hot-bed, in the manner hereafter described and figured: these are built in different ways, according to the Fancy of the Contriver. Some Persons build them with upright Glasses in Front, about four Feet high, and sloping Glasses over these, which rise about six Feet high, so that there is just Height enough for Persons to walk upright on the Back-side of the Bark-bed. Others make but one Slope of Glasses, from the Top of the Stove, down to the Plate, which lies six or eight Inches above the Bark-pit, in the Front of the Stove

so that in this Stove there is no Walk made in the Front between the Bark-pit and the Glasses; but the Inconveniency of watering the Plants, as also of coming near those Plants which are placed in the Front of the Stove to clean them, has, in some measure, brought them into Disesteem, so that few Persons do now build them, though the Expence is much less than of the other Kind of Stoves; but of both these Stoves the Figures and Descriptions which are hereafter exhibited, will be sufficient for any Person to build either of the Sorts.

One of these Stoves about the Length of 25 Feet in the clear, with the Pit for the Tan reaching from End to End, and six Feet and an half wide, will contain about an hundred Plants; so that whoever is desirous to have this Fruit, may easily proportion their Stove to the Quantity of Fruit which they are willing to have.

But it will be also necessary to have a Bark-pit under a deep Frame, in order to raise the young Plants, for in this Bed you should plunge the Suckers, when they are taken from the old Plants, as also the Crowns which come from the Fruit; so that this Frame will be as a Nursery to raise the young Plants to supply the Stove: but these Plants should not remain in these Frames longer than till the Beginning of *November*, unless the Frame have Flues in it to warm the Air (in the manner hereafter described and figured), which are very useful, as Nurseries, to keep the young Plants till they are of a proper Size to produce Fruit; so that you may keep these cooler than the Stove; which may be every Autumn filled only with bearing Plants, whereby a much

greater Quantity of Fruit may be annually produced, than can be where young and old Plants must be crowded into the same Stove: but where there are no Conveniencies of this Kind, the young Plants, about the Middle or Latter-end of *October*, must be removed into the Stove, and, being small, may be crowded in amongst the larger Plants; for since they will not grow much during the Winter-season, they may be placed very close together. The Beginning of *March* you must remove these Plants out into the Hot-bed again, which should be prepared a Fortnight before, that the Tan may have acquired a proper Heat: but you should be careful, that the Tan be not too hot; for that might scald the Fibres of the Plants, if they are suddenly plunged therein. Therefore, if you find the Bark too hot, you should not plunge the Pots above two or three Inches into the Tan, letting them remain so until the Heat of the Tan is a little abated, when you should plunge the Pots down to their Rims in the Bed. If the Nights should continue cold after these Plants are removed into the Bed, you must carefully cover the Glasses with Mats; otherwise, by coming out of a warm Stove, they may receive a sudden Check, which will greatly retard their Growth, which must be carefully avoided; because the sooner the Plants are set growing in the Spring, the more time they will have to gain Strength, in order to produce large Fruit the following Season.

You should not plunge the Pots too close together in this Frame; but allow them a proper Distance, that the lower Part of the Plants may increase in Bulk; for it is on this that the Magnitude of the Fruit depends; because

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because when the Plants are placed too close, they draw up very tall, but do not obtain Strength; so that when they are taken out of the Bed, the Leaves are not able to support themselves; but all the outward long Leaves will fall away, leaving the smaller middle Leaves naked; and this sometimes will cause them to rot in the Centre. You must also observe, when the Sun is very warm, to raise the Glasses of the Hot-bed with Stones, in order to let out the Steam of the Bed, and to admit fresh Air; for one Neglect of this Kind, in a very hot Day, may destroy all the Plants, or at least so scald them, that they will not get over it in many Months. It will be also very proper, in extreme hot Weather, to shade the Glasses in the Middle of the Day with Mats; for the Glasses, lying so near to the Leaves of the Plants, will occasion a prodigious Heat at such times.

During the Summer-season, these Plants must be frequently watered; and, in hot Weather, they must have free Air admitted to them every Day, from Ten o'Clock till Four; for, if they are kept too close, or too dry, they will receive a Check in their Growth, when the Insects will immediately spread over them; for there are generally some of these Insects on all these Plants, which do not much Injury to the Plants while they are in a growing State; but whenever they are unhealthy, the Insects multiply greatly, and contribute to their Decay. There are some Persons who regulate the Heat of their Stoves by Thermometers in Summer; but at that Season this is unnecessary; for the outward Air in hot Weather is frequently greater than the Ananas Heat mark'd on the Thermometers; so that the Heat

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of the Stoves at that Season will be much greater. The Use of the Thermometer is only in Winter, during the time the Fires are continued; by which it is easy to judge when to increase or diminish the Fires; for, at that Season, the Stoves should not be kept to a greater Warmth than five or six Divisions above Ananas, nor suffered to be more than as many Divisions below it. In Winter the Plants must have less Water, but they will require to have it repeated at least twice a Week: when the Plants are placed into the Tan for the Winter-season (which should be done about the Beginning of *October*), the Tan-bed should be renewed, adding two-thirds of new Tan, to one-third of the old. If this be well mix'd, and the new Tan is good, the Bed will maintain a proper Degree of Warmth till *February*, at which time it will be proper to stir up the Bed, and add a Load or two of new Tan, so as to raise the Bed as much as it sunk since Autumn; this will give a fresh Heat to the Bed, and keep the Plants growing; and, as the Fruit will now begin to appear, it will be absolutely necessary to keep the Plants in a growing State, otherwise the Fruit will not be large; for if they receive any Check at this time, it will greatly injure them.

In *April* it will be proper to stir up the Tan again; and, if the Bed has sunk since the last Stirring, it will be proper to add some fresh Tan to it: this will renew the Warmth of the Bed, and forward the Fruit. At this time it will be proper to shift the young Plants, which are designed to produce Fruit the following Year: the Tan-bed into which these are plunged must be renewed, in order to forward the Plants, that they may have Strength enough

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enough by Autumn, to produce good Fruit; for in this is the principal Care required.

Those Plants which shew their Fruit early in *February*, will ripen about *June*; some Sorts are at least a Month or five Weeks longer in ripening their Fruit than others, from the time of the Appearance of the Fruit: but the Season in which the Fruit is in greatest Perfection, is from the Beginning of *May* to the End of *September*; tho' in *March*, *April*, and *October*, I have frequently eaten this Fruit in pretty good Perfection; but then the Plants have been in perfect Health, otherwise they seldom are well flavoured.

The Method of judging when the Fruit is ripe, is by the Smell, and from Observation; for as the several Sorts differ from each other in the Colour of their Fruit, that will not be any Direction when to cut them; nor should they remain so long as to become soft to the Touch before they are cut; for then they become flat and dead, as they also do when they are cut long before they are eaten: therefore the surest Way to have this Fruit in Perfection, is to cut it the same Day it is eaten; but it must be early in the Morning, before the Sun has heated the Fruit, observing to cut the Stalk as long to the Fruit as possible, and lay it in a cool, but dry Place, preserving the Stalk and Crown to it, until it is eaten.

That Sort with green Fruit, if suffered to ripen well, is of an Olive-colour; but there are some Persons who cut them before they are ripe, when they are not fit to be eaten, for no other Reason, but to have them green: and although many Persons have much recommended this Sort for its excellent Flavour,

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yet I think the Sugar-loaf Sort is to be preferred to it.

ANAPODOPHYLLON, Duck's-foot, or *Pomum Maiale*, i. e. May-apple.

The Characters are;

The Cup of the Flower consists of one Leaf: the Flowers are hexapetalous: the Footstalk of the Flower comes out from the Stalk of the Leaf: the Fruit is in Shape of an Urn, in which are contained many roundish fimbriated Seeds.

We have but one Sort of this Plant in England; which is,

ANAPODOPHYLLON *Canadense* Morini. Tourn. Canada Duck's-foot of Morinus.

This Plant is very common in the Woods of *America*, but particularly in *Virginia* and *Carolina*, where it flowers in *March*, and the Fruit is ripe in *May*; from whence it had the Name of *May-apple*; but, in *England*, it seldom flowers till toward the End of *April*, and the Fruit I have never yet seen ripen with us.

It is a very hardy Plant, and will thrive in the open Air very well, especially if it is planted under Trees or Shrubs, where it may be protected from the Sun in the Summer, and somewhat sheltered from the Severity of Frost in Winter: it loves a light Soil; for in strong Ground the Roots are subject to rot in Winter.

ANCHUSA, Alkanet. *Vide* Buglossum.

ANDRACHNE, Bastard Orpine.

The Characters are;

There are Male and Female Flowers on the same Plant: the Empalement of the Male Flowers is divided into five Parts: the Flower consists of five Leaves, having five small Stamina in the Centre: the Female Flower hath no Leaves, but hath three Styles, which rest upon the Pointal; which

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which afterward becomes a Capsule with three Cells, filled with small Seeds.

We have but one Species of this Plant; viz.

ANDRACHNE. Linn. Hort. Cliff. *Telephoides*, or Baltard Orpine.

This is a low annual Plant, whose Branches trail upon the Ground. The Leaves are small, of an oval Shape, smooth, and of a sea-green Colour. It is found wild in some Parts of *Italy*, and in the *Archipelago*; from whence Dr. *Tournefort* sent the Seeds to the Royal Garden at *Paris*. Being a Plant of no great Beauty, it is seldom cultivated, but in Botanic Gardens for Variety. If the Seeds of this Plant are sown on a Bed of common Earth in Autumn, soon after they are ripe, the Plants will come up the Spring following, and will produce Flowers and Seeds: but if it is sown in the Spring, the Seeds will often remain in the Ground until the next Year, before they come up. This Plant doth not bear transplanting well; therefore should be sown where it is designed to remain; and will require no other Culture, but to keep the Plants clear from Weeds.

ANDROMEDA.

The Characters are;

The Empalement is divided into five Parts: the Flower (which is of the oval bell-shaped Kind) consists of one Leaf, which is cut into five Parts at the Brims, which are reflexed: in the Centre of the Flower is fixed a roundish Pointal, attended by ten Stamina: the Pointal afterward turns to a roundish Fruit opening into five Cells, which are full of small Seeds.

The Species are;

1. ANDROMEDA *foliis alternis lanceolatis, margine reflexis*. Linn. Marsh-cistus, or wild Rosmary.

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2. ANDROMEDA *arborea, foliis oblongo-ovatis integerrimis, floribus paniculatis nutantibus, racemis simplicissimis*. Flor. Virgin. Tree *Andromeda*, with oblong-oval intire Leaves, and Flowers growing in a single Panicle; commonly called in *America*, Sorrel tree.

3. ANDROMEDA *foliis ovatis acutis crenulatis planis alternis, floribus racemosis*. Lin. Hort. Cliff. *Andromeda* with oval-pointed Leaves, growing alternate on the Branches, and Flowers growing in Bunches.

4. ANDROMEDA *foliis ovatis, pedunculis fasciculatis, capsulis pentagonis apice debiscentibus*. Flor. Virgin. *Andromeda* with oval Leaves, and Pedicles growing in Bunches, and Capsules opening into five Corners at the Top.

The first Sort grows wild upon the Moors in several Parts of the North of *England* and *Scotland*; and being never found to grow any-where but upon Moors and Bogs, it is with Difficulty transplanted into Gardens. The only Method is, to take up the Plants in Autumn, with a convenient Ball of Earth to their Roots, and plant them in a moist shady Place, or into Pots filled with loose rich Earth, as near to the natural Soil as possible; and in dry Weather they must be constantly watered, otherwise they will not continue long in Gardens. By this Management, I have known some Plants preserved several Years, which have annually flowered very well, but have not produced any Seeds.

The second Sort is a Native of *Carolina*, where it grows to the Height of twenty Feet: the Branches are garnished with Leaves which somewhat resemble those of the Pear-tree: the Flowers are produced in long Spikes between the Leaves, and

and the whole Plant has an acid Taste; from whence it received the Name of Sorrel-tree. This Plant is propagated by Seeds, which must be obtained from *America*; for they are never perfected in this Country. These Seeds should be sown as soon as possible after they are received, in Pots filled with fresh Earth, and placed under a Frame; where, if they are plunged into an old Bed of Tan, which has little Heat, it will preserve the Earth from drying; and, as the Weather grows warm, they should be shaded in the Heat of the Day, and frequently watered. With this Management the Plants will sometimes come up the first Year, tho' they often do not come up till the second; therefore if they should not come up the first, the Pots should be preserved the Winter following under a Frame, to keep them from hard Frost; and the Spring following, if they are placed on a moderate Hot-bed, it will be a sure Method to bring up the Plants. While the Plants are young, they are much more tender than when they get Strength; therefore it will be proper to shelter them the two first Winters; after which time they may be planted in the open Air, observing to give them a warm Situation.

The other two Sorts grow in *Virginia*, *Maryland*, and *New-England*; from which Places their Seeds may be obtained. These must be treated in the same manner as is directed for the former Sort; but as these grow in a colder Climate than that, they will not require to have a warm Situation: these delight in a moist Soil, but should not have too much Wet in Winter.

ANDROSACE. We have no *English* Name for this Plant.

The Characters are;

The Flowers grow in an Umbel on

the Top of the Stalk, and are inclosed in a larger Involucrum; each Flower standing upon a slender Footstalk: the Flower consists of one Leaf cut at the Top into five Parts, having five short Stamina, which surround the Pointal; which afterward turns to a Fruit of one Cell, filled with roundish Seeds.

The Species are;

1. ANDROSACE *vulgaris latifolia annua*. *Inst. R. H.* Common broad-leav'd Androsace.

2. ANDROSACE *Alpina perennis angustifolia, villosa & multiflora*. *Inst. R. H.* Hairy narrow-leav'd perennial Androsace of the Alps, with many Flowers.

3. ANDROSACE *Alpina perennis angustifolia glabra, flore singulari*. *Inst. R. H.* Smooth narrow-leav'd perennial Androsace of the Alps, with a single Flower.

4. ANDROSACE *Orientalis, foliis valerianellæ undulatis & crispis*. *Cor. Inst. R. H.* Eastern Androsace, with Corn-sallad-leaves, which are curled and waved.

5. ANDROSACE *Orientalis, foliis coris, flore odoratissimo*. *Cor. Inst. R. H.* Eastern Androsace, with a Coris-leaf, and a sweet Flower.

There are some other Species of this Genus, which have been discovered in the Eastern Countries of late Years, but have not as yet been introduced into the *English* Gardens. The first is the only Species which has been common in *England*, and is found growing wild near *Vienna* in the Corn-fields, from whence the Seeds were brought. This Plant greatly resembles the *Auricula* in Leaf and Flower, excepting the large *Involucrum* or Cover, which incloses the whole Umbel. As these Plants are seldom cultivated, unless in Botanic Gardens, I shall not trouble the Reader with a farther Description.

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The Seeds of all the Sorts should be sown soon after they are ripe; otherwise they seldom grow. They flower usually the Beginning of *April*, and their Seeds are ripe the End of *May*; which, if permitted to scatter, will come up, and often succeed better than those which are sown. The annual Sorts perish as soon as the Seeds are ripe; but the others will live in an open Border for several Years, and require no other Care, but to keep them clean from Weeds.

ANDROSÆMUM, Tutſan or Park-leaves.

We have but one *Species* of this Plant; *viz.*

ANDROSÆMUM *maximum frutescens*. C. B. P. 280. Tutſan or Park-leaves.

This Plant grows wild in many Parts of *England*, and is seldom preserved in Gardens: it delights in shady Places, growing, for the most part, under Hedges or Trees.

ANEMONE, Wind-flower.

The *Characters* are;

It hath a simple Stalk, which is surrounded by a Leaf: upon the Top of the Stalk is produced one naked Flower, which consists of many Petals (or Flower-leaves) with many Stamina or Threads in the Centre: the Seeds are collected into an oblong Head, which are surrounded with a copious Down.

There are a great Variety of these Flowers preserved in the Gardens of the curious Florists, which are commonly divided into two Classes; *viz.* the broad and narrow-leav'd Sorts: under each of these Divisions, there are a great Variety, which differ in the Shape, Colour, or Size of the Flower. To mention all the particular Sorts which are preserved in our Gardens only, would be tiresome to the Reader, and of little Use: I shall therefore proceed to

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the Culture of them; and first, of the Soil proper to blow them to great Advantage.

Take a Quantity of fresh untry'd Earth (from a Common, or some other Pasture-land) that is of a light sandy Loam, or hazel Mould; observing not to take it above ten Inches deep below the Surface; and if the Turf be taken with it, the better, provided it hath time to rot thoroughly before it is used: mix this with a third Part of rotten Cow-dung, and lay it in an Heap, keeping it turned over at least once a Month for eight or ten Months, the better to mix it, and rot the Dung and Turf, and to let it have the Advantages of the free Air: in doing this Work, be careful to rake out all great Stones, and break the Clods (but I would by no means approve of sifting or screening the Earth, which I have found very hurtful to many Sorts of Roots); for when Earth is made very fine, upon the first great Rains of Winter or Spring, the small Particles thereof join closely together, and form one solid Mass, so that the Roots often perish for want of some small Stones to keep the Particles asunder, and make way for the tender Fibres to draw Nourishment for the Support of the Root.

This Earth should be mixed twelve Months before it is used, if possible; but if you are constrained to use it sooner, you must turn it over the oftener, to mellow and break the Clods; and observe to take out all the Parts of the Green-sward, that are not quite rotten, before you use it, which would be prejudicial to your Roots, if suffered to remain. The Beginning of *September* is a proper Season to prepare the Beds for Planting; which, if in a wet Soil, should be raised with

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with this Sort of Earth six or eight Inches above the Surface of the Ground, laying at the Bottom some of the Rakings of your Heap to drain off the Moisture; but in a dry Soil, three Inches above the Surface will be sufficient: this Soil should be laid at least two Feet and an half thick, and in the Bottom there should be about four or five Inches of rotten Neats dung, or the rotten Dung of an old Melon or Cucumber bed, so that you must take out the former Soil of the Beds to make room for it.

And observe, in preparing your Beds, to lay them, if in a wet Soil, pretty round, to shoot off the Water; but in a dry one, let it be nearer to a Level; for in wet Land, where the Beds are raised above the Surface, it will be proper to fill up the Paths between them in Winter, either with rotten Tan, or Dung, to prevent the Frost from penetrating into the Sides of the Beds, which often destroys their Roots. Your Earth should be laid in the Beds at least a Fortnight or three Weeks before you plant the Roots, that it may settle; and when you plant them, stir the Upper-part of the Soil about six Inches deep, with a Spade; then rake it even and smooth, and with a Stick draw Lines each Way of your Bed at six Inches Distance, so that the Whole may be in Squares, that your Roots may be planted regularly: then with your three Fingers make an Hole in the Centre of each Square, about three Inches deep, laying therein a Root with the Eye uppermost; and when you have finished your Bed, with the Head of a Rake draw the Earth smooth, so as to cover the Crown of the Roots about two Inches thick.

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The best Season for planting these Roots, if for forward Flowers, is about the Latter-end of *September*; and for those of a middle Season, any time in *October*; but observe to perform this Work, if possible, at or near the time of some gentle Showers; for if you should plant them when the Ground is perfectly dry, and there should no Rain fall for three Weeks or a Month after, the Roots will be very apt to grow mouldy upon the Crown; and if they once get this Distemper, they seldom come to good after.

You may also reserve some of your Anemone Roots till after *Christmas*, before you plant them, lest by the Severity of the Winter your early planted Roots should be destroyed, which does sometimes happen in very hard Winters, and in Places where they are not covered, or taken care of: these Roots will flower a Fortnight or three Weeks after those which are planted in Autumn, and many times blow equally as fair, especially if it prove a moist Spring, or that Care be taken to refresh them with Water.

But then the Increase of these Roots will not be near so great as those of your first planting, provided they were not hurt in Winter; and it is for this Reason all those who make Sale of these Roots, are forward in planting: for altho' it may happen, by sharp-pitching Frosts in the Spring, that their Flowers are not so double and fair as those planted a little later; yet if they can preserve the green Leaves of the Plants from being destroyed, the Roots will greatly increase in Bulk; but in such Gardens where these Flowers are preserved with Care, there is always Provision made to cover them from the Injuries of the

the Weather, by arching the Beds over with Hoops, or some such thing, and covering them with Garden-mats or Cloths, in frosty Nights, and bad Weather, especially in the Spring of the Year, when their Buds begin to appear; for otherwise, if you plant the best and most double Flowers, the black Frosts and cutting Winds in *March* will cause them to blow single, by destroying the Thrum that is in the Middle of the Flower; and this, many times, hath occasioned People to think they were cheated in the Purchase of their Roots, when it was wholly owing to their Neglect of covering them.

In the Beginning of *April* your first-planted Roots will begin to flower, which will continue for three Weeks, or more, according to the Heat of the Weather, or Management in covering them, during the Heat of the Day, with Mats or Cloths; then the second-planted Sorts will come to succeed them, and these will be followed by those planted in the Spring; so that you may have these Beauties continued for near two Months together, or sometimes longer, if the Season prove favourable.

Towards the Middle or Latter-end of *May*, the Leaves of your first-blown Roots will decay; at which time you must take them out of the Ground, clearing them from decayed Stalks, and washing them, to take the Earth clean from the Roots; then spread them on a Mat in a dry shady Place, till they are perfectly dried, when you may put them up in Bags, and hang them out of the Reach of Mice, or other Vermin, which will destroy many of the Roots, if they can come at them.

Observe also to take up the latter-planted Roots as soon as their Leaves decay; for if they are suffered to

remain long after in the Ground, and there should fall some Showers of Rain, they will soon put forth fresh Fibres, and make new Shoots, when it would be too late to remove them: at the time when you take up the Roots, is the proper Season for breaking or parting them, which may be done by separating those that you would choose to make all possible Increase from, into as many Parts as you can conveniently, provided each one of them have a good Eye or Bud; but those you intend to blow strong, should by no means be parted too small, which greatly weakens their Flowering.

The principal Colours in Anemonies are, White, Red, Blue, and Purple; and these, in some of them, are curiously intermixed; but the most prevailing Colours amongst our *English*-raised Anemonies, are White and Red; but of late we have received from *France* great Varieties of Blues and Purples, which are exceeding fine Flowers: we should therefore observe, in planting the Roots, to distribute the different Colours, so as to make an agreeable Mixture of each in every Bed, which will greatly add to their Beauty.

But since all the fine Varieties of these Flowers were first obtained from Seeds, no good Florist, that hath Garden-room, should neglect to sow their Seeds; in order to which, we should provide ourselves with a Quantity of good single (or Poppy) Anemonies, as they are called, of the best Colours, and such as have strong Stems, large Flowers, and other good Properties: these should be planted early, that they may have Strength to produce good Seeds, which will be ripe in three Weeks or a Month's time, after the Flowers are past; when you must carefully gather it, otherwise it will be blown

blown away in a short time, it being inclosed in a downy Substance: you must preserve this Seed till the Beginning of *August*, when you may either sow it in Pots, Tubs, or a well-prepared Bed of light Earth: in the doing of it you must be careful not to let your Seeds be in Heaps; to avoid which is a thing little understood, and is what I have been informed of by Mr. *Obadiab Lowe*, Gardener at *Battersea*, who hath, for several Years, raised large Quantities of these Flowers from Seeds: his Manner is thus:

After having levelled his Bed of Earth, in which he intends to sow his Seeds, he rubs the Seeds well between his Hands, with a little dry Sand, in order to make them separate the better; then he sows them as regularly as possible over the Bed; but as these Seeds will still adhere closely together, he takes a strong Hair-brush, and gently sweeps over the whole Bed, observing not to brush off the Seeds. This Brush will so separate the Seeds, if carefully managed, as not to leave any intire Lumps; then gently sift some light Earth, about a Quarter of an Inch thick, over the Seeds; and, if it should prove hot dry Weather, it will be adviseable to lay some Mats hollow upon the Bed in the Heat of the Day, and now-and-then give them a little Water; but this must be given gently, lest by hastily Watering you wash the Seeds out of the Ground; but be sure to uncover the Bed at all times when there are gentle Showers, and every Night; and as the Heat of the Weather decreases, you may begin to uncover your Bed in the Day-time.

In about two Months after sowing, your Plants will begin to appear, if the Season has proved favourable, or your Care in Manage-

ment hath not been wanting, otherwise they many times remain a whole Year in the Ground. The first Winter after their appearing above-ground, they are subject to Injuries from hard Frosts, or too much Wet, against both of which you must equally defend them; for the Frost is very apt to loosen the Earth, so that the young Plants are often turned out of the Ground, after which a small Frost will destroy them; and too much Wet often rots their tender Roots, so that all your former Trouble may be lost in a short time for want of Care in this Particular; nor do I know of any thing more destructive to these tender Plants, than the cold black Frosts and Winds of *February* and *March*, from which you must be careful to defend them, by placing a low Reed-fence on the North and East Sides of the Bed, which may be moveable, and only fastened to a few Stakes to support it for the present, and may be taken quite away as the Season advances, or removed to the South and West Sides of the Bed, to screen it from the Violence of the Sun, which often impairs these tender Plants.

As the Spring advances, if the Weather should prove dry, you must gently refresh them with Water, which will greatly strengthen your Roots; and when the green Leaves are decayed, if your Roots are not too thick to remain in the same Bed another Year, you must clear off all the Weeds, and decayed Leaves, from the Bed, and sift a little more of the same prepared good Earth, about a Quarter of an Inch thick over the Surface; and observe to keep them clear from Weeds during the Summer-season, and at *Michaelmas* repeat the same Earthing; and if your Roots succeed well, many of them will

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will flower the second Year, when you may select all such as you like, by marking them with a Stick; but I would not have you destroy any of them until after the third Year, when you have seen them blow strong, at which time you will be capable to judge of their Goodness.

But if your Roots are too thick in the Seed-bed to remain, you must, as soon as their green Leaves are decayed, sift the Earth of your Bed through a very fine Sieve, in order to get out the Roots, which can be no otherwise found, as being small, and so nearly the Colour of the Ground; but in doing this, observe not to disturb the Ground too deep, so as to endanger the burying any of the Roots; for, notwithstanding all your Care, many small Roots will be left behind; therefore, as soon as you have sifted your whole Bed, and taken out all the Roots you can find, you must level the Earth of your Bed again, and let it remain till next Year, when you will find a plentiful Crop of Roots come up again: the young Roots which you take up must be dried, as was directed for the old ones; but should be planted again three Weeks before them, that they may increase in Strength, so as to flower strongly the succeeding Year.

The single (or Poppy) Anemonies will flower most Part of the Winter and Spring, when the Seasons are favourable, if they are planted in a warm Situation; at which time they make a fine Appearance; therefore deserve a Place in every Flower-garden, especially as they require little Culture; for if these Roots are taken up every third Year, it will be often enough; and when they are taken up, they should be planted again very early in the Autumn, otherwise they will not flower till

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the Spring. There are some fine blue Colours amongst these single Anemonies, which, with the Scarlets and Reds, make a beautiful Mixture of Colours: and as these begin flowering in *January* or *February*, when the Weather is cold, they will continue a long time in Beauty, provided the Frost is not too severe. The Seeds of these are ripe by the End of *April*, or the Beginning of *May*, and must be gathered daily as it ripens, otherwise it will soon be blown away by the Winds.

ANEMONOIDES, Wood-anemone, *vulgo*.

The Characters are;

The Root is perennial, and for the most part grumose and creeping: the Leaves are finely cut; three of which, for the most part, surround the Stalk: it hath a single Flower upon each Stalk, which consists of many Leaves, and are expanded in form of an Anemone, having many Stamina or Threads in the Middle: the Seeds are collected into an oblong Head, and are in Shape like those of the Ranunculus, having no Down adhering to them.

The Species are;

1. ANEMONOIDES *flore albo*. Boerb. Ind. Wood-anemone with white Flowers.

2. ANEMONOIDES *flore ex purpurea rubente*. Boerb. Ind. Wood-anemone with purplish-red Flowers.

3. ANEMONOIDES *flore majore intensiore caeruleo*. Boerb. Ind. Wood-anemone with large deep blue Flowers.

4. ANEMONOIDES *flore albo pleno*. Boerb. Ind. Wood-anemone with double white Flowers.

5. ANEMONOIDES *flore pleno purpureo*. Boerb. Ind. Wood-anemone with double purple Flowers.

6. ANEMONOIDES *flore pleno caeruleo majore*. Wood-anemone with large double blue Flowers.

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The first of these Plants is found wild in the Woods in most Parts of England; the other Varieties I have gathered in great Plenty, in the Wildernesses belonging to the Gardens at *Wimbleton* in *Surry*, which were, probably, at first taken from some Woods in *England*: in this Place they increase so fast, that the Surface of the Ground is covered with them in the Spring; and it is more remarkable, that there the large blue and double Sorts are the most common: these Plants are very pretty Ornaments to Wilderness-quarters, or shady Walks, in the Spring of the Year, continuing a long time in Flower; and, by their agreeable wild Appearance, have a very pleasing Effect to the Eye.

The best Season for transplanting these Flowers is in *June*, when the Leaves are decaying; for if they are suffered to remain until the Leaves are quite gone, it will be very difficult to find their Roots, which are nearly the Colour of the Earth: if these Roots are permitted to remain in a Garden undisturbed, they will multiply exceedingly, and produce great Quantities of Flowers; but if they are often removed, it will destroy them; therefore they should be planted in such shady Parts of Wildernesses as are seldom digged.

ANEMONOSPERMOS. *Vide* *Arctotis*.

ANETHUM, Dill.

The Characters are;

It hath a slender fibrose annual Root: the Leaves are like those of Fennel: the Seeds are oval, plain, break-ed, and bordered.

The Species are;

1. ANETHUM *hortense*. C.B. Common or Garden-dill.

2. ANETHUM *verum* *Pernambucense*. Zan. The true Dill of *Pernambuco*.

3. ANETHUM *segetum*, *semine minori*. *Virid. Lusit.* Corn-dill with lesser Seeds.

The first of these Sorts is that which is cultivated for Use; the other two are Varieties, which are preserved as Curiosities in Botanic Gardens.

These Plants are propagated by sowing their Seeds, which should be done in Autumn, soon after they are ripe; for if they are kept out of the Ground till Spring, they frequently miscarry; or if any of the Plants do come up, they often decay before they have perfected their Seeds. They love a light Soil, and will not bear to be transplanted, but must be sown where they are to remain; and must be allowed eight or ten Inches room to grow, otherwise they will draw up very weak, and not produce any lateral Branches; whereby their Leaves will decay, and be rendered useless; nor will they produce so good Seeds: therefore the better way is, when the Plants are come up, to hoe them out, as is practised for Onions, Carrots, &c. leaving the Plants above eight or ten Inches asunder every Way, observing to keep keep them clear from Weeds; and when the Seeds begin to be formed, you should cut up those that are intended to be put into the Pickle for Cucumbers, leaving those that are intended for the Use of the Seeds, until they are ripe; at which time it should be cut, and spread upon a Cloth to dry, and then beat out for Use: and if you let the Seeds fall upon the Ground, they will arise the next Spring without any Care, so that the Trouble of sowing their Seeds may be spared.

ANGELICA.

The Characters are;

It is distinguished from the other umbelliferous Plants by its angular Fruit,

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Fruit, always having three Furrows ; and the Flower is equal with incurved Petals.

The Species are ;

1. *ANGELICA sativa*. C. B. Common or manured Angelica.
2. *ANGELICA sylvestris major*. C. B. Greater wild Angelica.
3. *ANGELICA lucida Canadensis*. Cornut. Shining Canada Angelica.
4. *ANGELICA montana perennis, aquilegiæ folio*. Tourn. Mountain perennial Angelica, with Columbine-leaves.

There are several other Species of this Plant, which are preserved in the curious Botanic Gardens ; but as there are at present no particular Uses to which these are applied, it would be needless to enumerate them here.

The common Angelica delights to grow in a very moist Soil : the Seeds of this Plant should be sown soon after it is ripe ; for if it is kept until the Spring, seldom one Seed in forty will grow. When the Plants are come up about six Inches high, they should be transplanted at a large Distance ; for their Leaves extend very wide : the best Place for this Plant is upon the Sides of Ditches, or Pools of Water, where being planted about two Feet asunder, they will thrive exceedingly. The second Year after sowing, they will shoot up to flower : therefore, if you have a mind to continue their Roots, you should cut down these Stems in May, which will occasion their putting out Heads from the Sides of the Roots, whereby they may be continued for three or four Years ; whereas if they had been permitted to seed, their Roots would perish soon after.

The Gardeners near London propagate great Quantities of this Plant, for which they have a great Demand

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from the Confectioners, who make a Sweet-meat with the tender Stalks of it, cut in May.

This Plant is also used in Medicine, as are also the Seeds : therefore where it is cultivated for the Seeds, there should be new Plantations annually made to supply the Places of those which die.

The second Sort grows wild by the Ditches Sides in many Parts of England, and is rarely propagated in a Garden.

The other two Sorts may be propagated by sowing their Seeds in the manner as was directed for the common Sort ; but they should be planted in a drier Soil, and in a shady Situation.

ANGURIA, The Water-melon or Citrul.

The Characters are ;

It hath trailing Branches, as the Cucumber or Melon ; and is chiefly distinguished from the other cucurbitaceous Plants by its Leaf, which is deeply cut and jagged, and by its producing an eatable Fruit.

The Species are ;

1. *ANGURIA citrullus dicta*. C. B. P. Common Water-melon, called Citrul.
2. *ANGURIA Indica maxima*. C. B. P. The largest Indian Water-melon.
3. *ANGURIA carne rubente, semine nigro majori*. Inst. R. H. Water-melon with a red Flesh, and large black Seeds.
4. *ANGURIA carne rubente, semine nigro minori*. Inst. R. H. Water-melon with a red Flesh, and smaller black Seeds.
5. *ANGURIA carne flavesciente, semine nigro*. Inst. R. H. Water-melon with a yellowish Flesh, and black Seeds.
6. *ANGURIA fructu rotundo, carne*

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rubente, semine rubro. Water-melon with a round Fruit, having a red Flesh, and red Seeds.

7. *ANGURIA triphyllus Americana, parvo fructu.* *Inst. R. H.* Three-leav'd *American* Water-melon, with a small Fruit.

8. *ANGURIA Americana, fructu echinato eduli.* *Inst. R. H.* *American* Water-melon, with a prickly eatable Fruit.

The six first-mentioned Sorts are cultivated in *Spain, Portugal, Italy*, and most other warm Countries in *Europe*; as also in *Africa, Asia*, and *America*; and are by the Inhabitants of those Countries greatly esteemed for their wholesome cooling Quality; but in *England* they are not so universally esteemed, though some few Persons are very fond of them. I shall therefore give Directions for the raising of these Fruits, so that such Persons as are willing to be at the Expence and Trouble of raising them, may not be at a Loss for Instructions.

You must first provide yourself with some Seeds, which should be two or three Years old; for new Seeds are apt to produce vigorous Plants, which are seldom so fruitful as those of a moderate Strength. The best Sorts to cultivate in *England* are the fourth and sixth Sorts; and next to these are the first and fifth Sorts; for the second and third Sorts produce very large Fruit, which seldom ripen in this Climate. Having provided yourself with good Seed, you should prepare an Heap of new Dung the Beginning of *February*, which should be thrown in an Heap for about twelve Days to heat; then you should make an Hot-bed for one single Light, for which one good Load of Dung will be sufficient; this Dung should be well wrought in making of the Bed, and

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must be beaten down pretty close with a Dung-fork, that the Heat may not be too violent, and of longer Continuance. When the Dung is thus laid, you should cover it about four Inches thick, with good light Earth; and having spread it very even, you should put the Frame and Glass over it, leaving it to warm four or five Days before you put the Seeds into it; observing, if the Steam rises pretty much, to raise up the Glass with a Stone, to let it pass off. Then, if you find your Bed in proper Temper, you may sow your Seeds therein in Drills, covering them over with Earth about half an Inch. After this, if you find your Bed very warm, you must give Air in the Day-time by raising of the Glasses; but if the Bed is cool, you must cover it well with Mats every Night, as also in bad Weather. In four or five Days after, you must prepare another Hot-bed to receive these Plants, which will be fit to transplant in ten Days, or a Fortnight at most, after the Seeds are sown: this Bed need not be very large; for a few of these Plants will fill a large Quantity of Frames, when they are planted out for good; and while the Plants are young, there may be a great Quantity kept in one Light; so that those Persons who raise early Cucumbers and Muskmelons, may also raise these Plants in the same Bed; for two or three Lights will be sufficient to raise Plants of all three Kinds, to supply the largest Families, until they are planted out for good. In the Management of these Plants while young, there is little Difference from the Directions given for raising Muskmelons: therefore I need not repeat it here. The chief thing to be observed is, to let them have a large Share of Air whenever the Weather

Weather will permit; otherwise the Plants will draw up weak, and be good for little. As these Plants will require two or three Hot-beds, to bring the Fruit to Perfection, it will be the better way to put the Plants into Baskets, as was directed for the raising early Cucumbers; but you should not plant more than two Plants in each Basket; for if one of them lives, it will be sufficient: therefore, when both the Plants do succeed, you should draw out the weakest and most unpromising of them, before they begin to put out their Side-shoots; otherwise they will entangle, and render it difficult to be performed, without greatly injuring the remaining Plant.

The Baskets in which these Plants are to be planted, need not be more than a Foot Diameter; so that one Light will contain eight of them; which will be sufficient for twenty-four Lights, when they are planted out for good; for where the Plants are vigorous, one single Plant will spread so far as to fill three Lights; and if they have not room, they seldom set their Fruit well.

These Baskets may remain in the Nursery-beds, until the Plants have spread, and put out many Runners; for when the Heat of this Bed declines, it is soon revived by adding a proper Lining of warm Dung to the Sides of the Bed quite round; so that when they are taken out of this Bed, and placed in the Ridges where they are to remain, the Heat of the Beds will last so long as to set their Fruit, which is of great Consequence; for when the Plants are ridged out very young, the Beds are generally made of a great Thickness in Dung, in order to continue their Heat; so that for some time after they are made, they are so extreme hot, as to endanger the scald-

ing of the Plants: and by the time the Fruit begins to appear, there is little Heat left in the Beds, which often occasions the Fruit to drop off, and come to nothing.

After these Plants are placed in the Beds where they are to remain, you must carefully lead the Shoots as they are produced, so as to fill each Part of the Frame, but not to crowd each other; and be careful to keep them clear from Weeds, as also to admit fresh Air whenever the Weather will permit: they must also be frequently watered; but not in great Quantities.

In short, there is little Difference to be observed in the Management of these, from that of Muskmelons, but only to give them more room, and to keep the Beds to a good Temperature of Heat, without which these Fruit will seldom come to good in this Country.

ANIL, The Indigo-plant.

The Characters are;

It hath pennated (or winged) Leaves, which are terminated by a single Lobe at the Extremity: the Flowers (which are for the most part disposed in a Spike) consist of five Leaves, and are of the papilionaceous Kind, the uppermost Petal (or Standard) being larger than the others, and is rounder, and lightly furrow'd on the Side: the lower Leaves (or Petals) are short, and terminate in a Point: in the Middle of the Flower is situated the Style, which afterward becomes a jointed Pod, containing one cylindrical Seed in each Partition.

The Species are;

1. ANIL, *sive Indigo Americana, siliquis in falcule modum contortis.* D. Merchand. Mem. Ac. Reg. Scien. Anno 1718. The true Indigo, with Pods shaped like a Sickle.

2. ANIL, *sive Indigo Americana, fruticosa, argentea, floribus e viridi*
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purpureis,

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purpureis, filiquis falcatis. Coluteæ affinis, fruticosa argentea, floribus spicatis e viridi purpureis, filiquis falcatis. Sloan. Cat. Jam. The wild Indigo, or Guatimalo Indigo, *vulgo*.

3. ANIL, *sive* Indigo, *filiquis latis aliquantulum incurvis. Emerus Indicus, filiqua aliquantulum incurva, ex quo Indigo. Breyn.* Indigo with broad Pods a little crooked.

The first and third of these Species are Annuals with us: the Seeds of these must be sown on an Hot-bed in the Spring of the Year; and when the Plants are come up two Inches high, they should be transplanted into small Pots filled with good fresh Earth, and the Pots plunged into an Hot-bed of Tanners Bark; and when the Plants have obtained some Strength, they must have a great deal of free Air, by raising the Glasses in the Day-time; and in June they may be exposed to the open Air, by which time they will produce their Flowers, which will be succeeded by Pods in a very short time after; and in August their Seeds will be perfected.

The second Sort grows to the Height of five or six Feet, and will abide two or three Years, if it is preserved in a very warm Stove in Winter: this produces Spikes of Flowers from the Wings of the Leaves on the Sides of the Stems of the Plant, and doth sometimes perfect its Seeds in England. This must be raised in an Hot-bed, as was directed for the two former; but must not be exposed to the open Air, even in the hottest Weather.

The first and third Sorts are supposed to be promiscuously used to make the Indigo; but the first is the common Sort, which is cultivated in the English Plantations in America: but I have been assured by a Person of great Credit, that he has made

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as good Indigo from the second Sort, as any that was produced in our Plantations; and this being a much larger Plant, will afford a greater Quantity from the same Compass of Ground, than any one of the other two Species; and this Sort is also much hardier, and may be cultivated in such Places where the first Sort will not grow; by which means great Improvements may be made with this Plant in our American Plantations. The French chiefly cultivate this Sort.

ANISUM or ANISE. *Vide* Apium.

ANONA. *Vide* Guanabanus.

ANONIS, Cammock-petty-whin, or Rest-harrow.

The Characters are;

It hath a papilionaceous Flower, which is succeeded by a swelling Pod, which is sometimes long, and at other times short; is bivalve, and filled with kidney-shaped Seeds.

The Species are;

1. ANONIS *spinosa, flore purpureo.* C. B. Anonis, or prickly Rest-harrow, with purple Flowers.

2. ANONIS *spinosa, flore albo.* C. B. Prickly Rest-harrow, with white Flowers.

3. ANONIS *spinis carens, purpurea.* C. B. Purple Rest-harrow, without Prickles.

4. ANONIS *spinis carens, candidis floribus.* C. B. Rest-harrow without Prickles, and white Flowers.

5. ANONIS *spicata, sive alopecuroides, Lusitanica. Hofm. Cat.* Portugal Rest-harrow, with Spikes of purple Flowers.

6. ANONIS *purpurea, verna, seu præcox, perennis, frutescens, flore rubro amplo. Mor. Hist.* Early shrubby purple Rest-harrow, with ample red Flowers.

7. ANONIS *lutea angustifolia perennis. Boer. Ind.* Yellow narrow-leav'd perennial Rest-harrow.

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8. ANONIS *filiquis ornithopodii*. Boer. Ind. Rest-harrow with Pods like the Bird's-foot.

9. ANONIS *Americana, folio latiori subrotundo*. Tourn. American Anonis, with broad roundish Leaves.

10. ANONIS *Caroliniana perennis, non spinosa, foliorum marginibus integris, floribus in thyrso candidis*. Smooth perennial Carolina Anonis, with intire Leaves, and white Flowers growing in a Spike.

11. ANONIS *Hispanica frutescens, folio tridentato carnosio*. Inst. R. H. Shrubby Spanish Rest-harrow, with a tridented fleshy Leaf.

12. ANONIS *Alpina humilior, radice ampla & dulci*. Inst. R. H. Dwarf Rest-harrow of the Alps, with a large sweet Root.

13. ANONIS *Alpina pumila glabra non spinosa purpurea*. Inst. R. H. Dwarf smooth purple Rest-harrow of the Alps.

14. ANONIS *Hispanica frutescens, folio rotundiori*. Inst. R. H. Shrubby Spanish Rest-harrow, with a rounder Leaf.

15. ANONIS *frutescens Americana, flore purpureo*. Inst. R. H. Shrubby American Rest-harrow, with a purple Flower.

16. ANONIS *Asiatica frutescens, floribus luteis amplis*. Inst. R. H. Asiatic shrubby Rest-harrow, with large yellow Flowers.

17. ANONIS *Americana angustifolia humilior, & minus hirsuta*. Houst. Dwarf narrow-leav'd American Rest-harrow.

18. ANONIS *non spinosa, foliis cisti instar, glutinosi & odoratis*. Sloan. Cat. Fam. Shrubby glutinous and sweet-smelling American Rest-harrow, without Thorns, and Leaves like the Dwarf-cistus.

19. ANONIS *Americana erectior non spinosa, foliis rotundioribus, floribus amplis luteis*. Upright American Rest-harrow, without Spines,

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having round Leaves, and large yellow Flowers.

20. ANONIS *viscosa, spinis carens, lutea major*. C. B. P. Large yellow Rest-harrow, without Spines.

21. ANONIS *spinis carens, lutea minor*. C. B. P. Smaller yellow Rest-harrow, without Spines.

22. ANONIS *flore luteo parvo*. R. H. Par. Rest-harrow with a small yellow Flower.

23. ANONIS *pumilla glabra angustifolia lutea*. Inst. R. H. Smooth narrow-leav'd dwarf Rest-harrow, with a yellow Flower.

24. ANONIS *non spinosa, flore luteo variegato*. C. B. P. Smooth Rest-harrow, with a yellow variegated Flower.

25. ANONIS *non spinosa hirsuta viscosa, odore theriacæ*. Hort. Cath. Sup. Hairy viscous Rest-harrow, without Spines, and smelling like Venice-treacle.

26. ANONIS *non spinosa minor glabra procumbens, flore luteo*. Sloan. Cat. 75. Lesser trailing smooth American Rest-harrow, without Spines, and having yellow Flowers.

The four first Sorts grow wild in divers Parts of England, and are seldom propagated in Gardens: the first Sort is used in Medicine: the Roots of this Plant spread very far under the Surface of the Ground, and are so tough, that in plowing the Land it often stops the Oxen; from whence it had its Name, viz. *Resta Bovis*. This is likewise called Cammock by the Country-people; and in some Counties it is called French Furz. The second Sort is but a Variety of the first, differing only in the Colour of the Flower. The two others, without Spines, are often met with near the first.

The fifth, seventh, and eighth Sorts are beautiful Garden-plants; these are propagated by sowing their Seeds in the Spring of the Year, in

an open-situated Bed of light Earth ; and when the Plants of the sixth Sort are come up, they should be transplanted carefully, either into Pots (fill'd with good fresh Earth), or into warm-situated Borders ; for they are subject to be destroyed by hard Frosts ; therefore it is that I would advise the preserving some Plants of each Kind in Pots, which may be sheltered in the Winter under a common Hot-bed-frame, and the Spring following may be turned out of the Pots (preserving all the Earth to their Roots), and planted in a warm Border, where they may remain to flower ; and if the Season is good, they will perfect their Seeds in *August*, or sooner.

The fifth Sort is an annual Plant, which perishes soon after the Seeds are perfected ; therefore it is that I have advised the raising of some Plants in Autumn, that good Seeds may be obtained ; because those which are raised in the Spring, many times are destroyed by Frost, before their Seeds are perfected.

The sixth Sort is a perennial Plant, which grows to the Height of two Feet, or more, and is shrubby : this produces its beautiful purple Flowers very early in the Spring ; and the Leaves remaining green thro' the Winter, renders it worthy of a Place in such Gardens where there are Collections of curious Plants preserved. It is an hardy Plant, which will live abroad in common Winters ; and in the most severe Frost requires no other Shelter but that of a common Frame ; under which, if some of the Pots are placed in *October*, and the Glasses kept off constantly in mild Weather, to let the Plants enjoy as much free Air as possible, they will flower well in the Spring.

The seventh Sort may also be

treated in the same manner ; but this, being not near so beautiful as the former, is seldom preserved but in Botanic Gardens, for Variety-sake.

The eighth and ninth Sorts are Annuals, and must therefore be sown every Spring : the eighth will do very well, if sown on a Bed of fresh Earth in the open Air, where it may remain to flower and seed ; but the ninth should be sown on a moderate Hot-bed, and managed as is directed for the *Balsamina* : this will produce its Flowers in *July*, and the Seeds will ripen in *September*.

The tenth Sort is a perennial Plant, which dies to the Root every Winter, but rises again the succeeding Spring. This Plant produces long Spikes of white Flowers in *June*, and the Seeds ripen in *September*. It is propagated from Seeds, which should be sown in the Spring, upon a gentle Hot-bed ; and when the Plants are come up, they should be transplanted each into a Halfpeny Pot fill'd with fresh Earth, and plung'd on another very moderate Hot-bed ; observing to water and shade them until they have taken Root ; after which time they should be inured to the open Air ; and in the Latter-end of *June* the Pots should be placed abroad ; where they may remain until the Middle of *October*, when they must be placed under an Hot-bed-frame, to shelter them in severe Frost ; but in mild Weather they should have as much free Air as possible. The Spring following, these Plants should be taken out of the Pots, and planted in warm Borders, where they are to remain ; for by shooting their Roots a great Depth into the Earth, they do not bear transplanting well, after they have made strong Roots. These Plants will continue several Years ; and as their Roots increase, they will

will produce a greater Number of Flowers.

The eleventh, twelfth, thirteenth, and fourteenth Sorts are abiding Plants; which may be propagated by sowing of their Seeds in the same manner as hath been directed for the tenth; and the young Plants should also be treated the first Year, as was directed for that Sort. The following Spring you must plant out the twelfth and thirteenth Sorts into the full Ground, where they will thrive much better than if kept in Pots; and being both very hardy, they will endure the severest Cold of our Climate without Shelter. These produce their Flowers in *April* and *May*; and in good Seasons, will sometimes perfect their Seeds in *England*.

The eleventh and fourteenth Sorts become shrubby; these are more tender than the former Sorts; so that some of these Plants should be kept in Pots, that they may be sheltered from the Frost in Winter; and the others may be planted in a warm Border, where they will endure the Cold of our ordinary Winters very well; but in very sharp Winters, these Plants, which are exposed, will be destroyed. These two Sorts flower in the Spring (at which time they make an handsome Appearance amongst other hardy Exotic Plants); and sometimes they will produce ripe Seeds in *England*. They may also be propagated by Cuttings, which should be planted in Pots filled with light rich Earth, and plunged into a very moderate Hot-bed; observing to water and shade them, until they have taken Root; after which time, they must be removed into the open Air, and should remain abroad until the End of *October*, or the Beginning of *November*; when they must either be

removed under an Hot-bed-frame, where they may be covered in frosty Weather, or else placed in the Greenhouse near the Windows: for they should have as much Air as possible in mild Weather, otherwise they will produce weak Shoots, and seldom flower near so well as those which are treated hardily.

The fifteenth, sixteenth, seventeenth, and eighteenth Sorts are Natives of *America*. These are also abiding Plants, which may be propagated by sowing their Seeds in small Pots filled with light fresh Earth, in the Spring of the Year: these Pots should be plunged into a moderate Hot-bed of Tanners Bark, observing to water the Earth gently when you perceive it dry; but you must not give them too much Water, lest it burst the Seeds, and cause them to rot. In about three Weeks or a Month after sowing, the Plants will appear; when they should be frequently refreshed with Water, to promote their Growth; and when they are two Inches high, they should be taken out of the Pots, and carefully parted; planting each Plant into a small Pot filled with the same rich Earth as the Seeds were sown in. Then the Pots should be plunged again into a moderate Hot-bed of Tanners Bark, observing to water and shade them until they have taken Root; after which time they should be constantly refreshed with Water, as the Season may require; and in warm Weather the Glasses of the Hot-bed should be raised with Stones, to admit the Air to the Plants in proportion to the Heat of the Weather. When the Plants have grown so as to fill these small Pots with their Roots, they should be shaken out of them, and transplanted into Pots a Size larger, and then plunged into the Hot-bed

Hot-bed again; for these Plants, being Natives of warm Countries, must be treated after the manner of other tender Exotic Plants. In Winter they must be placed in the Bark-stove; but in Summer they should have a large Share of fresh Air, otherwise they will not flower very strong; nor will they ever produce good Seeds, if they have not Air and Moisture in warm Weather.

The nineteenth and twenty-sixth Sorts are also very tender Plants. These are propagated by Seeds, which should be treated exactly in the same manner as the former Sorts: but these are not lasting Plants; for they seldom continue longer than two Years; the second Year they produce Flowers, and perfect their Seeds; after which they generally decay.

The twentieth, twenty-first, twenty-second, twenty-third, twenty-fourth, and twenty-fifth Sorts are all annual Plants, which are hardy. The Seeds of these should be sown about the Middle of *March*, on a warm Border, where they are design'd to remain; for they do not very well bear transplanting; wherefore the best Method is, to sow the Seeds in Drills, about two Feet asunder; and when the Plants are come up, they should be thinned, so as to leave the Plants about five or six Inches apart in the Rows. This is all the Culture which they require, unless it be to keep them clear from Weeds; which should be constantly observed. In *July* these Plants will produce their Flowers; and in *September* they will perfect their Seeds, which should be carefully gathered, to preserve their Species.

ANTHOLYZA. We have no English Name for this Plant.

The Characters are;

It hath an irregular Flower, of

the liliaceous Sort; the upper Lip inclosing the Stamina: the Flower is succeeded by a Fruit divided into three Cells, inclosing many roundish Seeds: the Root is bulbous.

We have but one Sort of this Plant at present in the English Gardens; viz.

ANTHOLYZA. *Lin.* This is called by Dr. Breynius, *Gladiolus floribus rectum referentibus coccineis, suprema lacinia erecta & fistulosa.*

This Plant is a Native of *Africa*, from whence the Seeds have been obtained, and were first raised in the *Dutch* Provinces, where it has long been an Ornament in some of their curious Gardens.

It is propagated by Off-sets, which the bulbous Roots send forth in pretty great Plenty; or by Seeds, which are sometimes perfected in *Europe*. These Seeds should be sown soon after they are ripe; for if they are kept out of the Ground till the following Spring, they often miscarry; and always remain a Year or more in the Ground before they grow. If the Seeds are sown in Pots of light Earth, and plunged into an old Hot-bed of Tan which has lost its Heat, and shaded in the Middle of the Day in hot Weather, the Seeds will come up the following Winter: therefore they must be placed in a Stove kept to a moderate Degree of Warmth, otherwise the young Plants will be destroyed. These must remain in the Pots two Years; by which time they will have Strength enough to be planted each into a separate small Pot filled with light Earth. The time for transplanting of these Roots is in *July*, when their Leaves are decayed. In Summer the Pots may be placed in the open Air; but in Winter they must be removed into a warm Green-house, or a Stove kept

kept in a moderate Degree of Warmth; for it is not very tender; but where any Damp arises, it is very apt to occasion a Mouldiness upon these Plants. The Roots shoot up in Autumn, and the Flowers begin to appear in *March*; the Seeds ripen in *May*; and soon after their Leaves and Stalks decay; when the Roots may be taken up, and kept six Weeks or two Months out of the Ground; so may be easily transported from one Country to another at that time. These Flowers are a great Ornament to the Green-house and Stove, when they are in Flower; and they are Plants which, requiring but little Culture, deserve a Place in every good Green-house.

ANTHOSPERMUM, Amber-tree, *vulgo*.

The Characters are;

It is Male and Female in different Plants, and some are Hermaphrodite: the Empalement is divided into four Parts: the Flower is of one Leaf: there are two Pointals, which are accompanied by four Stamina: the Flower sits upon the Ovarium.

We have but one Sort of this Plant in the *English* Gardens at present; *viz.*

ANTHOSPERMUM *mas.* *Lin.* The Male Anthospermum.

It has been long known in the curious Gardens, under the Title of *Frutex Africanus, ambram spirans*, or Amber-tree; by some Ambergrise; from the Scent of this Plant being supposed to be like that of Ambergrise.

This is preserved in most curious Gardens, which have Collections of tender Plants. It is easily propagated by planting Cuttings during any of the Summer-months, in a Border of light Earth; which will take Root in six Weeks time, pro-

vided they are watered and shaded as the Season may require: or if these Cuttings are planted in Pots, and plunged into a very moderate Hot-bed, they will take Root sooner, and there will be a great Certainty of their growing: then they should be taken up, with a Ball of Earth to their Roots, and planted into Pots fill'd with light sandy Earth, and may be exposed to the open Air until *October*; at which time they should be removed into the Conservatory, where they should be placed as free as possible from being overhung with other Plants: and, during the Winter-season, they must be refreshed with Water; but should not have too much given them each time. You may let them have as much Air as the Weather will permit; for if they are kept too close, they will be subject to grow mouldy, and generally decay soon after: so that if the Green-house is damp, it will be difficult to preserve these Plants thro' the Winter.

These Shrubs may be trained up either to form round Heads, or into Pyramids; it being a very manageable Plant; but should not be often cut; for, by so doing, it will occasion the Branches to grow very close, whereby the Air will be excluded from the Middle-part of the Plant; which will cause the Leaves to decay, and the Branches to appear very unsightly: but if you suffer it to grow as it is naturally disposed (only observing to tie up the Stem, to make it strait), the Plant will thrive much better.

The Beauty of this Shrub is in its small ever-green Leaves, which grow as close as Heath; and, being bruis'd between the Fingers, emit a very fragrant Odour. These Plants must be frequently renewed
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by Cuttings; for the old Plants are very subject to decay, seldom continuing above three or four Years.

ANTIRRHINUM, Snap-dragon, or Calves-snout.

The Characters are;

It is a Plant with an anomalous Flower, consisting of one Leaf, which is divided, as it were, into two Lips; the upper of which is cut into two Parts, and the under into three Parts: out of the Flower-cup arises the Pointal, fasten'd like a Nail in the hinder Part of the Flower; which afterward turns to a Fruit resembling a Calf's Head, which is divided in the Middle by a Partition into two Cells, in which are contain'd many small Seeds.

The Species are;

1. **ANTIRRHINUM latifolium**, flore rubro, riñu luteo. Boerb. The broad-leav'd Snap-dragon, with red Flowers.

2. **ANTIRRHINUM latifolium**, flore albo, riñu luteo. Boerb. The broad-leav'd Snap-dragon, with white Flowers.

3. **ANTIRRHINUM angustifolium majus peregrinum**, flore ruberrimo. H. R. Par. The large narrow-leav'd Snap-dragon, with deep-red Flowers.

4. **ANTIRRHINUM angusto folio linariæ**, eleganter variegato, flore rubro, riñu luteo. Boerb. The striped Snap-dragon.

5. **ANTIRRHINUM luteo flore**. C. B. P. Snap-dragon with a yellow Flower.

6. **ANTIRRHINUM latifolium, pallido amplo flore**. Boc. Mus. Broad-leav'd Snap-dragon, with a large pale Flower.

7. **ANTIRRHINUM Lusitanicum**, flore rubro elegantissimo. Par. Bat. Portugal Snap-dragon, with a most elegant red Flower.

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8. **ANTIRRHINUM Hispanicum villosum, origani folio**. Inst. R. H. Spanish hairy Snap-dragon, with a Wild-marjoram-leaf.

9. **ANTIRRHINUM Hispanicum altissimum, angustissimo folio**. Inst. R. H. Tall Spanish Snap-dragon, with a very narrow Leaf.

10. **ANTIRRHINUM medium, flore albo patulo**. Virid. Lust. Middle Snap-dragon, with a white spreading Flower.

11. **ANTIRRHINUM majus saxatile, angustissimis foliis, flore purpurascente minori**. Bar. Icon. Greater rock Snap-dragon, with very narrow Leaves, and a lesser purple Flower.

12. **ANTIRRHINUM Creticum angustifolium, flore maximo purpureo**. Tourn. Cor. Narrow-leav'd Snap-dragon of Crete, with the largest purple Flower.

The four first Sorts are raised from Seeds, which should be sown in a dry Soil, which is not too rich, in April or May; and in July may be planted out into large Borders, where they will flower the Spring following; or they may be sown early in the Spring, for flowering the same Autumn; but then they are not so likely to endure the Winter; and if the Autumn prove bad, they will not perfect their Seeds.

These Plants grow extremely well upon old Walls or Buildings, in which Places they will endure for several Years; whereas those planted in Gardens seldom last longer than two Years, unless they are planted in a very poor Soil, and the Flowers often cropped, and not suffered to seed; but any of these Sorts may be continued, by planting Cuttings in any of the Summer-months, which will easily take Root. The fourth Sort is tenderer than any of the former,

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mer, and should therefore be planted in Pots filled with rubbishing dry sandy Soil, and sheltered in Winter under a common Hot-bed-frame, observing to give them free open Air, by taking off the Glässes in mild Weather, and only covering them in very wet or frosty Weather.

All the Sorts of Snap-dragons are pretty Ornaments in a Garden; and, requiring very little Culture, are rendered more acceptable. They are all hardy Plants, and will resist the Cold of our Winters extremely well, especially if they are planted on a dry, gravelly, or sandy Soil; for when they are planted in a rich moist Soil, they will grow very luxuriant for a time, but are very subject to rot in Autumn or Winter, and are much more susceptible of Cold, than when they are in a dry, hungry, rocky Soil: so that these Plants may be placed amongst Stones; or they will grow in the Joints of old Walls, where they may be placed so as to render some abject Parts of a Garden very agreeable; for they will continue in Flower several Months; and if the Seeds are permitted to shed, there will be a continual Supply of young Plants, without any Trouble.

Where-ever these Plants are designed to grow on Walls, or on a rocky barren Soil, the Seeds should be sown the Beginning of March, where they are designed to remain; for if the Plants are first raised in a better Soil, and afterward transplanted into those Places, they seldom succeed well. When the Plants are come up, they will require no other Culture but to keep them clear from Weeds; and where they come up too thick, to pull some of them out, so as to give them room to grow. In July these Sorts will be-

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gin to flower, and will continue flowering till the Frost prevents them. These Plants which grow on Walls, will be strong, and have woody Stems, which will continue two or three Years or more.

APHACA, Vetchling.

The Characters are;

It hath a Butterfly-flower, one of whose Empalement rises the Pointal, which afterward becomes a Pod full of roundish Seeds: to these Notes must be added, That two Leaves only grow at the Joints of the Stalks, out of whose Wings proceed the Tendrils.

We have but one Species of this Plant; viz.

APHACA. Lob. Icon. Yellow Vetchling.

This Plant is found wild in divers Parts of England, on arable Land; but is seldom preserved in Gardens. It is an annual Plant, which perishes soon after the Seeds are perfected. The surest Method to cultivate this Plant is, to sow the Seeds on a Bed of light Earth in Autumn, soon after they are ripe; for if they are kept out of the Ground until Spring, they seldom grow; and if some of the Plants come up at that Season, they seldom perfect their Seeds so well as those which were sown in Autumn. These Seeds should be sown where the Plants are designed to remain; for they seldom succeed well, if they are transplanted. All the Culture these Plants require, is to keep them clear from Weeds, and to thin them where they come up too close, leaving them about ten Inches or a Foot asunder.

APIUM, Parsley.

The Characters are;

The Leaves are divided into Wings, or grow upon a branched Rib, and are, for the most part, cut into small Segments: the Petals of the Flower are

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are whole and equal; each Flower being succeeded by two gibbous channelled Seeds.

The Species are;

1. *APIUM hortense seu petroselinum, vulgo. C. B. P.* Common Garden Parsley.

2. *APIUM vel petroselinum crispum. C. B. P.* Curled Parsley.

3. *APIUM hortense latifolium. C. B. P.* Broad-leav'd Garden Parsley.

4. *APIUM Lusitanicum rotundifolium. Inst. R. H.* Round-leav'd Portugal Parsley.

5. *APIUM hortense latifolium, maxima, crassissima, suavi, & eduli radice. Boerb.* Broad-leav'd Garden Parsley, with a large sweet eatable Root.

6. *APIUM palustre, & Apium ofscinarum. C. B. P.* Smallage.

7. *APIUM dulce, Celeri Italorum. H. R. Par.* Celery.

8. *APIUM dulce degener, radice rapacea. Jussieu.* Turnep-rooted Celery, commonly called Celeriac.

9. *APIUM Macedonicum. C. B. P.* The Macedonian Parsley.

10. *APIUM Lusitanicum maximum, folio trilobato, flore luteolo. Boerb. Ind.* Great Portugal Parsley, with a trilobated Leaf, and a yellowish Flower.

11. *APIUM Pyrenaicum, thapsiae facie. Inst. R. H.* Pyrenean Parsley, with the Face of the Deadly Carrot.

12. *APIUM montanum, sive petræum album. J. B. Raii.* White mountain Parsley.

13. *APIUM montanum, sive petræum album elatius.* Taller white mountain Parsley.

The common Parsley must be sown early in the Spring; for the Seeds remain a long time in the Earth, the Plants seldom appearing in less than six Weeks after sowing the Seeds. This Sort is generally sown

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in Drills by the Edges of Borders in the Kitchen-garden, because it is much easier to keep it clear from Weeds, than if the Seeds are sown promiscuously on a Border, and the Parsley is soon cut: but if the Roots are desired for Use, then the Seeds must be sown thin; and when the Plants are come up, they should be hoed out single, as is practised for Carrots, Onions, &c. observing also to cut up the Weeds: if this be observed, the Roots will become fit for Use by August.

The common Parsley is, by some skilful Persons, cultivated in Fields for the Use of Sheep, it being a sovereign Remedy to preserve them from the Rot, provided they are fed twice a Week for two or three Hours each time with this Herb; but Hares and Rabbits are so fond of it, that they will come from a great Distance to feed upon it; and in Countries where these Animals abound, they will destroy it, if it is not very securely fenced against them; so that whoever has a mind to have Plenty of Hares in their Fields, by cultivating Parsley, will draw all the Hares of the Country to them.

The best time for sowing it in the Fields is about the Middle or Latter-end of February; the Ground should be made fine, and the Seeds sown pretty thick, in Drills drawn at about a Foot asunder, that the Ground may be kept hoed between the Drills, to destroy the Weeds, which, if permitted to grow, will soon over-run the Parsley: two Bushels of Seed will sow one Acre of Land.

The curled Parsley is sown in some curious Gardens, for garnishing Dishes; the Leaves being curiously furbelow'd, answer this Purpose very well, and the Herb is equally

equally as good for Use as the common, it being only a Variety thereof. In order to have this large and fine, it should be sown very thin, or, when it first comes up, hoe it out to the Distance of four Inches square; by which Management your Leaves will be extremely large and fair; and, if you do not suffer it to seed, will endure two Years very well; but if it seeds, it will seldom continue good after.

The great-rooted Garden Parsley is now more known in *England* than it was some Years ago: in *Holland* it is very common in all their Markets: they bring these Roots in Bunches, as we do young Carrots, to Market, in Summer; and the Roots are much of the same Size: it is called *Petrofeline Wortle* by the *Dutch*, who are very fond of it.

It may be cultivated by sowing the Seeds in good Ground early in the Spring; and in *April*, when the Plants are up, cut them out with an Hoe (as is practised for young Carrots) to about five or six Inches square, and keep them constantly clean from Weeds, and in *July* the Roots will be fit to draw for Use, and may be boiled and eaten as young Carrots; and are very palatable and wholesome, especially for those who are troubled with the Gravel.

But if these Plants are cut out, to allow them more room, if the Soil is good, the Roots will grow to the Size of a middling Parsnep by *September*: the Roots are much used to make a *Dutch Dish*, called *Water Souche*.

The *Macedonian Parsley* is a Stranger in our Country, and not to be found, except in curious Botanic Gardens: this Plant is propagated by sowing the Seed, in the Spring of the Year, in an open

well-exposed Bed of fresh Earth; and in Summer, when the Plants are come up, they should be transplanted, some of them into Pots filled with light fresh Earth, and others into a well-shelter'd dry Border; where they may remain until they flower, which is not before the second, and, sometimes, the third Year; but those that were planted in Pots, should be sheltered during the Winter-season, under an Hot-bed frame, giving them free open Air whenever the Weather is mild. These Plants, in the Spring following, may be turned out of the Pots into the full Ground, that their Seeds may be the better matured.

The *Anise* is a very difficult Plant to make grow with us: for altho' we have fresh Seeds from Abroad, which will often come up very well; yet if there happens but a little wet or cold Weather in the Summer-time, the Plants will rot off, and die away. The best Method is, to raise the Plants upon a moderate Hot-bed early in the Spring; and when they are come up, prick them out again upon another Bed that hath a little Warmth, observing to expose them to the open Air by degrees; by which means they will have more Strength, and consequently be in less Danger of being hurt by bad Weather: but this Plant is not worth propagating for Use in *England*, since we can have the Seeds much better, and at a cheaper Rate, from *Malta*, than they can be produced here.

Smallage is a common Weed, by the Side of Ditches, and Brooks of Water, in most Parts of *England*, so that it is seldom cultivated in Gardens; but if any Person is willing to propagate it, the Seeds should be sown soon after they are ripe, on a moist Spot of Ground; and

and when the Plants are come up, they may be either transplanted into a moist Soil, or hoed out, and left six or eight Inches asunder, where they may remain for good. The Seed of this Plant is one of the lesser warm Seeds, and both that and the Herb are used in Medicine.

The Seeds of the two Sorts of Celery should be sown at two or three different times, the better to continue it for Use through the whole Season without running up to Seed. The first Sowing should be in the Beginning of *March*, upon a gentle Hot-bed; the second may be a Month after, which ought to be in an open Spot of light Earth, where it may enjoy the Benefit of the Sun; the third time of Sowing should be the Beginning of *May*, which ought to be in a moist Soil; and if exposed to the morning Sun only, it will be so much the better; but it should not be under the Drip of Trees.

In about three Weeks or a Month's time after Sowing, the Seed will come up, when you must carefully clear it from Weeds; and if the Season prove dry, you must frequently water it; and in about a Month or five Weeks after it is up, the Plants will be fit to transplant: you must therefore prepare some Beds of moist rich Earth, in which you should prick these young Plants, at about three Inches square, that they may grow strong: you must also observe, in drawing these Plants out of the Seed-beds, to thin them where they grow too thick, leaving the small Plants to get more Strength before they are transplanted; by which means one and the same Seed-bed will afford three different Plantings, which will accordingly succeed each other for Use.

You must observe, if the Season proves dry, to keep it diligently watered after it is transplanted, as also to clear the Seed-beds from Weeds; and after every Drawing, keep them duly watered, to encourage the small Plants left therein.

The Beginning of *May* some of the Plants of the first Sowing will be fit to transplant for Blanching; which, if possible, should be put into a moist rich light Soil, upon which this first-planted Celery will often grow to be twenty Inches long in the clean blanch'd Parts, which upon a poor or dry Soil seldom rises to be ten Inches.

The manner of transplanting it is as follows: After having cleared the Ground of Weeds, you must dig a Trench by a Line about ten Inches wide, and four or five Inches deep, loosening the Earth in the Bottom, and laying it level; and the Earth that comes out of the Trench should be equally laid on each Side of the Trench, to be ready to draw in again to earth the Celery as it advances in Height. These Trenches should be made at three Feet Distance from each other; then plant your Plants in the Middle of the Trench, at about four Inches Distance, in one strait Row, having cut off the Tops of the long Leaves, as also trimm'd their Roots, observing to close the Earth well to their Roots, and to water them plentifully until they have taken fresh Root; after which time it will be needless, except in dry Soils, or very dry Seasons: as these Plants advance in Height, you must observe to draw the Earth on each Side close to them, being careful not to bury their Hearts, nor ever to do it but in dry Weather, otherwise the Plants will rot.

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When your Plants have advanced a considerable Height above the Trenches, and all the Earth, which was laid on the Sides thereof, hath been employed in earthing them up; you must then make use of a Spade to dig up the Earth between the Trenches, which must also be made use of for the same Purpose, continuing from time to time to earth it up, until it is fit for Use.

The first of your planting out will, perhaps, be fit for Use by the Beginning of *July*; and so this will be succeeded by the after Plantations, and, if rightly managed, will continue till *April*; but you should observe, after the second or third planting out, to plant the After-crop in a drier Soil, to prevent its being rotted with too much Wet in Winter; and also, if the Weather should prove extreme sharp, you will do well to cover your Ridges of Celery with some Peas-haulm, or some such light Covering, which will admit the Air to the Plants; for if they are covered too close, they will be very subject to rot: by this means you may preserve your Celery in Season a long time; but you must remember to take off the Covering whenever the Weather will permit, otherwise it will be apt to cause the Celery to pipe, and run to Seed. The Celery, when fully blanch'd, will not continue good above three Weeks or a Month before it will rot or pipe: therefore, in order to continue it good, you should have, at least, six or seven different Seasons of planting; so that if it be only intended to supply a Family, there need not be much planted at each time; but this must be proportioned according to the Quantity required.

The other Sort of Celery, which is commonly called Celeriac, is to be managed in the same manner as

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is directed for the *Italian Celery*, excepting that this should be planted upon the level Ground, or in very shallow Drills; for this Plant seldom grows above eight or ten Inches high, so requires but little earthing up; the great Excellence of this being in the Size of the Root, which is often as large as ordinary Turneps. It should be sown about the Middle of *March*, upon a rich Border of Earth; and, in dry Weather, constantly watered; otherwise the Seeds will not grow: when the Plants are large enough to transplant out, they should be placed 18 Inches asunder, Row from Row, and the Plants six or eight Inches distant in the Rows; the Ground must be carefully kept clean from Weeds; but this Sort will require but one earthing up, which should not be performed until the Roots are nearly grown: both these Sorts of Celery delight in a light moist Soil, where they will grow to a much larger Size, and be sweeter or tenderer than on a poor or dry Ground.

The best Method to save this Seed, is to make choice of some long good Roots of Celery that have not been too much blanch'd, and plant them at about a Foot asunder in a moist Soil, early in the Spring; and when they run up to Seed, keep them supported with Stakes, to prevent their being broken down with the Wind: and in *July*, when this Seed begins to be formed, if the Season should prove very dry, it will be proper to give it a little Water, which will greatly help its producing good Seeds. In *August* these Seeds will be ripe, at which time it should be cut up, in a dry time, and spread upon Cloths, in the Sun to dry; then beat out the Seeds, and preserve it dry in Bags for Use.

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APOCYNUM, Dogs-bane.

The Characters are ;

The Leaves are produced opposite, by Pairs, upon the Branches: the Flower consists of one Leaf, which is cut into several Segments: from its Flower-cup arises the Pointal, which is fixed like a Nail in the back Part of the Flower, and is afterward changed into a Fruit, which is, for the most part, composed of two Capsules, or Pods, which open from the Base to the Top, inclosing many Seeds, which have a long pappous Down adhering to them: to this may be added, That the whole Plant abounds with a milky Juice.

There are several Sorts of this Plant cultivated in the curious Gardens of Plants, some of which are very beautiful, and deserve a Place in every good Garden. I shall mention the different Species of this Plant, which are cultivated in the English Gardens, and shall leave the Reader to select such of them as he shall fancy to cultivate.

1. APOCYNUM erectum latifolium incanum Syriacum, floribus parvis obsolete purpurascens. Par. Bat. The upright broad-leav'd hoary Syrian Dogs-bane, with purplish coloured Flowers, called Bedesfar.

2. APOCYNUM erectum Canadense angustifolium. Par. Bat. The upright narrow-leaved Canada Dogs-bane.

3. APOCYNUM erectum Canadense latifolium. Par. Bat. The broad-leav'd upright Canada Dogs-bane.

4. APOCYNUM Americanum, foliis androsæmi majoris, flore liliæ convallium suave-rubentis. H. R. P. The American Dogs-bane, with Tutian-leaves, and red Flowers, like the Lily of the Valley.

5. APOCYNUM erectum fruticosum, folio subrotundo viridante. Par.

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Bat. The shrubby upright Dogs-bane, with roundish green Leaves.

6. APOCYNUM erectum Africanum, folio salicis angusto glabro, fructu villosi. Par. Bat. The upright willow-leaved African Dogs-bane, with hairy Fruit.

7. APOCYNUM Afrum scandens, folio rotundo subincano nummularia. Boerb. The African creeping Dogs-bane, with Leaves like Moneywort.

8. APOCYNUM erectum, folio oblongo, flore umbellato, petalis coccineis reflexis. Sloan. Cat. The upright Dogs-bane, with oblong Leaves, and scarlet Flowers, called by some Bastard Ipecacuana.

9. APOCYNUM Canadense angustifolium, flore aurantii. Mor. Præl. The narrow-leav'd Canada Apocynum, with orange-coloured Flowers.

10. APOCYNUM Marylandicum erectum, folio subrotundo, flore ruberrimo. The upright Maryland Dogs-bane, with roundish Leaves, and deep red Flowers.

11. APOCYNUM Americanum, foliis amygdali longioribus. Plum. Cat. American Dogs-bane, with a longer Almond-leaf.

12. APOCYNUM Americanum scandens hirsutissimum, foliis oblongis, siliquis maximis glabris. Climbing hairy Dogs-bane of America, with long Leaves, and large smooth Pods.

13. APOCYNUM Americanum scandens, folio cordato, fructu verrucoso. Climbing American Dogs-bane, with an heart shaped Leaf, and a warted Fruit.

14. APOCYNUM Americanum scandens, foliis longis angustis ad basin auriculatis, siliquis emeri. Climbing American Dogs-bane, with long narrow Leaves, which have Ears at their Base, and Pods like the Scorpion-sena.

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15. *APOCYNUM Americanum scandens, foliis citri, siliquis maculatis.* Plum. Climbing American Dogs-bane, with Citron-leaves, and spotted Pods.

16. *APOCYNUM Americanum scandens, vincæ pervincæ foliis, siliquis angustissimis.* Climbing American Dogs-bane, with Leaves like Periwinkle, and narrow Pods.

17. *APOCYNUM Africanum scandens, asphodeli radice, angustissimo folio.* Olden. Climbing African Dogs-bane, with an Asphodel-root, and a very narrow Leaf.

18. *APOCYNUM Americanum scandens, foliis lauri, flore albo umbellato.* Plum. Climbing American Dogs-bane, with a Bay-leaf, and white Flowers growing in Umbels.

19. *APOCYNUM Americanum scandens, folio salicis angusto, fructu maximo.* Climbing American Dogs-bane, with a narrow Willow-leaf, and a very large Fruit.

20. *APOCYNUM maritimum Venetum, salicis folio, flore purpureo.* C. B. P. Maritime Venice Dogs-bane, with a Willow-leaf, and a purple Flower.

The first of these Dogs-banes is a prodigious Creeper at the Root, and will in a short time overspread a large Compass of Ground, and must never be planted too near other Plants or Flowers, which would be over-run by this Plant, and destroyed; but it may have a Place in some obscure Part of the Garden; for it is extremely hardy, and will thrive in almost any Soil or Situation: it grows to be six or seven Feet high, and produces large Umbels of Flowers, which have a strong sweet Smell, but are of a poisonous Nature, as are all the true Apocynums; and therefore should not be planted in the Way of Children, who may receive Damage by breaking any Part of

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the Plant, and letting the milky Juice, with which they abound, run upon the tender Part of their Flesh, which will be apt to blister it: these Flowers are sometimes succeeded by large oblong Pods, which contain a great Quantity of a soft cottony Substance, that adheres to the Seeds, and are of Service to transport them to a Distance when ripe. This Plant dies to the Root in Winter, and rises again the succeeding Spring. The downy Substance which adheres to the Seeds of this Plant, is much used in France for stuffing the Seats of Chairs, as also to stuff Quilts, it being extremely light and warm. This Down, having a great Elasticity, rises again to its usual Height, after being press'd down close; it is called in France, *De la Wade*.

The second, third, fourth, and tenth Sorts are all of them very hardy, and may be planted in the open Ground, but must have a dry Soil: these, all of them, produce large fine Flowers, and are propagated by parting their Roots in March, after the cold Weather is past; for they seldom produce ripe Seeds with us.

The fifth, sixth, seventh, and eighth Sorts are tender, and must be preserved in Pots, and housed in Winter.

The fifth and sixth Sorts will grow very shrubby, and sometimes to the Height of eight or nine Feet, and produce Bunches of Flowers, which in the sixth Sort are of a whitish-green, and the fifth of a worn-out purple Colour, but are of no great Beauty or Smell. These are increased by planting Cuttings in any of the Summer-months, in Pots of light sandy Earth, plunging them into a moderate Hot-bed, and shading them from the great Heat of the Sun, giving them gentle Refreshings of Water. These must have a good

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Green-house in Winter, and must not have too much Water in that Season.

The seventh Sort is a climbing Plant, and will twist itself round a Stake, and grow to the Height of seven or eight Feet, and in Summer will produce from the Joints small Umbels of worn-out purple-colour'd Flowers, which are extremely sweet. This is propagated by laying down the young Shoots, which easily take Root, or by parting the Roots of the old Plants.

The eighth Sort is the most tender of them all, and requires a moderate Stove to preserve it in Winter: this produces extreme beautiful orange-coloured Flowers, which often are succeeded by ripe Seeds. This Plant may be increased by planting the Cuttings in *June*, in a moderate Hot-bed; but must have little Water, and be secured from the violent Heat of the Sun, and the Cold of the Nights: but the best Way to propagate them is by sowing the Seeds in an Hot-bed in *March*; and when the Plants are come up, prick them into small Pots, and plunge them into another Hot-bed, to bring them forward; and in *June* you may begin to expose them to the open Air, at which time they will begin to flower; but it will be advisable to preserve one or two of the strongest in the Hot-bed, in order to procure good Seeds.

The ninth Sort is tolerably hardy, and only requires to be screened from the extreme Cold in Winter; and if it is planted into the full Ground, under a warm Wall, it will thrive very well, and continue several Years; whereas those in Pots are with great Difficulty preserved. This Plant produces beautiful Umbels of orange-colour'd Flowers, which abide most Part of the Months of *July* and

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August, and deserve a Place in the most curious Garden. This is propagated by parting the Roots in *March*, or sowing the Seeds, which in a good Season ripen tolerably well with us.

This Sort has not a milky Juice, which is common to all the Dogs-banes; and the Leaves being placed alternately on the Stalks, which in all the true Dogs-banes are placed opposite by Pairs, some Persons have removed it from the Genus of Dogs-bane, and have made a spurious Genus of it, by the Name of *Apocynoides*.

The eleventh, twelfth, thirteenth, fourteenth, fifteenth, sixteenth, nineteenth, and twentieth Sorts were sent me by the late Mr. *Robert Millar* from *Cartbagena*, in the Neighbourhood of which Place they grew. These climbing Sorts of Dogs-bane run over Hedges, and climb to the Top of the tallest Trees in their native Countries; but in *England* they require a warm Stove, to preserve them through the Winter, as they are Natives of a warm Climate.

They may be easily raised from Seeds, which should be sown on an Hot-bed in the Spring; and when the Plants are fit to transplant, they should be each planted in a small Pot, and plunged into a moderate Hot-bed of Tanners Bark, observing to shade them until they have taken Root; afterward they should have free Air admitted to them every Day in warm Weather, and be duly watered. When the Plants have grown too tall to remain in the Hot-bed, they may be removed into the Bark-stove; and during the Summer-time, they must have a larger Share of Air admitted to them; but in Winter the Stove must be kept to temperate Heat. These Plants are great Ramblers; so that if they are not

not prevented, they will climb over all the Plants in the Stove; and as they seldom flower, they are not very ornamental.

The Roots of the eighth Sort have been ignorantly given for the *Ipecacuanha*, which has been attended with very bad Effects.

The eighteenth Sort may be treated in the same manner as hath been directed for the other climbing Sorts.

The twenrieth Sort is pretty hardy, growing wild on the Borders of the Sea about *Venice*. This may be preserved in Pots, and sheltered under an Hot bed-frame in Winter; and in Summer exposed with other hardy Exotic Plants.

APPLE-TREE. *Vide* *Malus*.

APPLES of Love. *Vide* *Lycopersicon* & *Solanum*.

MAD APPLES. *Vide* *Melone*.

APRICOCK, or Abricot; or, in *Latin*, *Malus Armeniaca*. *Vide* *Armeniaca*.

AQUIFOLIUM, seu Agrifolium, The Holly-tree.

The Characters are;

The Leaves are set about the Edges with long sharp stiff Prickles: the Berries are small, round, and, for the most part, of a red Colour, containing four triangular striated Seeds in each.

The Species are;

1. *AQUIFOLIUM baccis rubris*. *H. L.* The common Holly, with red Berries.

2. *AQUIFOLIUM baccis luteis*. *H. L.* Yellow-berried Holly.

3. *AQUIFOLIUM baccis albis*. White-berried Holly.

4. *AQUIFOLIUM foliis ex luteo variegatis*. *H. R. Par.* *Aquifolium aureum*. *Munt. H* 163. Yellow-blotch'd Holly.

5. *AQUIFOLIUM foliis ex albo variegatis*. *H. L.* White-blotch'd Holly.

6. *AQUIFOLIUM echinata folii superficie*. *Corn.* 180. Hedghog Holly.

7. *AQUIFOLIUM echinata folii superficie, foliis ex luteo variegatis*. Yellow-blotch'd Hedghog Holly.

8. *AQUIFOLIUM echinata folii superficie, limbis aureis*. Gold-edged Hedghog Holly.

9. *AQUIFOLIUM echinata folii superficie, limbis argenteis*. Silver-edged Hedghog Holly.

10. *AQUIFOLIUM foliis longioribus, limbis & spinis ex unico tantum latere per totum argenteo pictis*. *Pluk. Alm.* 38. *BRODERICK'S* Holly, *vulgo*.

11. *AQUIFOLIUM foliis subrotundis, limbis & spinis utrinque argenteis, aquifolium elegans*. *D. D. & Eales. Pluk. Alm.* 38. *EAL'S* Holly, *vulgo*.

12. *AQUIFOLIUM foliis oblongis lucidis, spinis & limbis argenteis*. *Sir THOMAS FRANKLIN'S* Holly, *vulgo*.

13. *AQUIFOLIUM foliis oblongis, spinis & limbis argenteis*. *Hertfordshire* white Holly.

14. *AQUIFOLIUM foliis subrotundis, limbis argenteis, spinulis & marginalibus purpurascens*. *BRIDGMAN'S* Holly, *vulgo*.

15. *AQUIFOLIUM foliis oblongis, spinis & limbis flavescentibus*. *LONGSTAFF'S* best Holly, *vulgo*.

16. *AQUIFOLIUM foliis oblongis lucidis, spinis & limbis aureis*. *BRADLEY'S* best Holly, *vulgo*.

17. *AQUIFOLIUM foliis oblongis, spinis & limbis aureis*. *WISE'S* Holly, *vulgo*.

18. *AQUIFOLIUM foliis subrotundis, spinis minoribus, foliis ex luteo elegantissime variegatis*. The *Brisish* Holly, *vulgo*.

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19. *AQUIFOLIUM foliis oblongis, atro-virentibus, spinis & limbis aureis.* Bagshot Holly, vulgo.

20. *AQUIFOLIUM foliis latissimis, spinis & limbis flavescens.* Glory of the East Holly, vulgo.

21. *AQUIFOLIUM foliis oblongis, spinis majoribus, foliis ex aureo variegatis.* Glory of the West Holly, vulgo.

22. *AQUIFOLIUM foliis subrotundis, spinis & limbis aureis.* ASLET'S Holly, vulgo.

23. *AQUIFOLIUM foliis longioribus, spinis & limbis argenteis.* The Union holly, vulgo.

24. *AQUIFOLIUM foliis & spinis majoribus, limbis flavescens.* Fine PHYLLIS-holly, vulgo.

25. *AQUIFOLIUM foliis minoribus, spinis & limbis argenteis.* Painted-lady Holly, vulgo.

26. *AQUIFOLIUM foliis angustioribus, spinis & limbis flavescens.* FULLER'S Cream-holly, vulgo.

27. *AQUIFOLIUM foliis oblongis, ex luteo & aureo elegantissime variegato.* Milk-maid Holly, vulgo.

28. *AQUIFOLIUM foliis oblongis viridibus, maculis argenteis notatis.* CAPEL'S mottled Holly, vulgo.

29. *AQUIFOLIUM foliis oblongis, spinis & limbis luteis.* PARTRIDGE'S Holly, vulgo.

30. *AQUIFOLIUM foliis oblongis, spinis & limbis ocreoluteis.* MASON'S copper-colour'd Holly, vulgo.

31. *AQUIFOLIUM foliis parvis, interdum vix spinosis.* Box-leav'd Holly, vulgo.

32. *AQUIFOLIUM foliis parvis, interdum vix spinosis, limbis foliorum argentatis.* WHITMILL'S Holly, vulgo.

33. *AQUIFOLIUM Caroliniense, foliis dentatis, baccis rubris.* Catesb. Carolina Holly, with smooth Leaves, commonly called *Daboon Holly*.

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This common Holly-tree, though wild in many Parts of *England*, deserves a Place in large Gardens, being very ornamental to the Wilderness, and ever-green Garden; especially when we take in the large Variety of beautiful variegated Sorts, of which we have a much greater Number than is to be found in any Part of *Europe*: these are all distinguished by the different Names of the Persons who first observ'd them, or from the Places where they grew.

I have seen in one Garden, viz. Mr. *Christopher Gray's*, near *Fulham*, above thirty different Varieties, which are either strip'd or blotch'd with White, Yellow, or Copper-colour.

These Trees were formerly in much greater Request than at present, and there was scarcely a small Garden of any Worth, but was fill'd with them, which were clipp'd either into Pyramids, Balls, or some other Figures; but as this was crouding a Garden too much with one Sort of Plant, and the Fashion of clipp'd Greens going off, they are now almost wholly neglected: such are the Changes in Mens Tempers and Fancies, that what is one Year esteemed, is the next despised!

I would not here be thought to be an Advocate for clipp'd Trees: no; I am infinitely more delighted with a Tree in all its Luxuriancy of Branches, waving about with every Gust of Wind; but yet I think there is a great Beauty in these Trees, if rightly disposed in a Garden, but more especially in such as are of a large Extent, by being intermixed with other Sorts of Ever-greens, to form Clumps, or placed in Quarters of Ever-greens, or to border Woods, and the Sides of Wilderness-quarters,

or to plant in ever-green Hedges ; in all which Places they have an agreeable Effect.

All the variegated Sorts are propagated by budding or grafting them on the plain Holly-stocks : the best time for budding them is in *July*, and for grafting them, in *March* or *April*.

The manner of raising the common Hollies is by sowing the Berries, which, if sown as soon as ripe, will lie two Years in the Ground, that is, until the Spring-twelve-month after ; you may therefore mix the Berries with dry Sand, and put them in a large Garden-pot, burying it in the Ground till the next *August* or *September* ; and take them out, and sow them on a Bed of common Earth, covering the Seeds about a quarter of an Inch with light Mould, and the Spring following the Plants will appear above-ground : but as this is a tedious Method, and the young Plants making but small Progress for the two or three first Years, I would rather advise the purchasing of young Stocks, of about three or four Years Growth, of some Nursery-men, who raise them for Sale, and these will be fit to bud or graft the second Year after they are planted ; or you may purchase such young Plants, of several Kinds, as have been budded or grafted two Years, which are generally sold very reasonably in the Nurseries ; than to hazard the budding them yourself, especially if you are not sure of being provided with Cuttings very near you.

Hollies are also planted for Hedges, and have been by some very much esteemed for that Purpose ; but the Leaves being very large, when these Hedges are clipp'd, they are generally cut in Pieces, and appear very ragged ; otherwise they make a very

durable strong Hedge, and very proper for an outside Fence of a Green-garden.

The best time for transplanting this Tree is in the Beginning of *April*, in moist Weather ; and if the Season is good, and they are carefully removed, there will be little Danger of their growing : they may also be transplanted in *August* or *September*, if the Season proves moist, and they will put out new Roots before Winter ; but if you do it at this Season, you must be careful to mulch the Ground about the Roots, to keep the Frost from reaching them in Winter, which would be apt to destroy your new-planted Trees.

If the Trees you intend to remove are large, and have been growing some time in the Places where they stand, you should dig about them, and cut their Roots a Year or two before, that they may produce young Fibres, to keep the Earth from falling away from the Roots ; and if you remove them to any Distance, it will be adviseable to put them into Baskets ; and when you plant them, you may either cut off the Sides of the Basket, or, if they are but loosely made, suffer them to remain intire ; for they will soon rot in the Ground.

You must also be very careful to supply your new-planted Hollies with Water for the two first Years, if the Seasons prove dry ; after this time there will be little Danger of their miscarrying.

The great Variety of variegated Hollies which were so much cultivated in the Nurseries some Years ago, and were sold for large Prices, are now almost intirely neglected, few Persons caring to plant them in their Gardens ; nor indeed are they so beautiful as the common green Holly, which is also much more hardy than the variegated Sorts,

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which in severe Winters are often greatly injured, and sometimes killed, by the Frost.

The *Daboon* Holly is a Native of *Carolina*, from whence the Plants have been procured. This Sort hath smooth shining-green Leaves, which are as large as those of the Bay-tree; and having a beautiful Green, renders it one of the best Kinds of ever-green Trees: the Berries are produced in large Clusters close to the Branches, which are of a bright-red Colour, and make a fine Appearance when they are ripe.

This Tree, while young, will require a little Protection from hard Frost; but when the Plants have obtained Strength, they will resist the Cold of this Climate in the open Air. They love a Soil rather moist than dry, and thrive best where they are screened by other Plantations from the cold Winds. It may be raised from the Berries in the same manner as the common Sort.

AQUILEGIA, Columbine.

The Characters are;

It hath Leaves like the Meadow-sage: the Flowers are pendulous, and of an anomalous Figure: the Pistil of the Flower becomes a membranous Fruit, consisting of many Husks or Pods; each of which contains many shining-black Seeds.

The Species are;

1. *AQUILEGIA sylvestris. C. B.* The common wild Columbine.

2. *AQUILEGIA stellata, flore violaceo. Hort. Eyst.* The starry Columbine, with violet-coloured Flowers.

3. *AQUILEGIA hortensis simplex. C. B.* The single Garden-columbine.

4. *AQUILEGIA montana, magno flore. C. B.* Mountain-columbine, with large Flowers.

5. *AQUILEGIA Canadensis præ-*

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cox procerior. H. R. Par. Early-flowering *Canada* Columbine.

6. *AQUILEGIA pumila præcox Canadensis. Cornut.* Dwarf early-flowering *Canada* Columbine.

7. *AQUILEGIA hortensis multiplex, flore magno cæruleo. C. B.* Double Garden-columbine, with large blue Flowers.

8. *AQUILEGIA flore variegato duplici. Suvert.* Double variegated Columbine.

9. *AQUILEGIA flore roseo multiplici. C. B. P. 145.* The Rose-columbine.

10. *AQUILEGIA castaneæ coloris. Suvert.* Chestnut-coloured Columbine.

11. *AQUILEGIA hirsuta, flore viscoso. Bot. Monf.* Hairy Columbine, with a viscous Flower.

12. *AQUILEGIA flore roseo multiplici. C. B. P.* Double Rose-columbine.

13. *AQUILEGIA hortensis, multiplici flore inverso cæruleo. Tourn.* Garden-columbine, with a blue inverted Flower.

14. *AQUILEGIA stellata, flore purpureo. H. Eyst.* Starry Columbine, with a purple Flower.

15. *AQUILEGIA stellata, flore cæruleo. H. Eyst.* Starry Columbine, with a blue Flower.

16. *AQUILEGIA stellata, flore variegato. H. Eyst.* Starry Columbine, with a variegated Flower.

17. *AQUILEGIA degener wirens. C. B. P.* Green degenerate Columbine.

There are great Varieties of this Plant, which are preserved in curious Gardens; the Flowers of which are very double, and beautifully variegated with Blue, Purple, Red, and White. These are very ornamental Plants in Borders of large Gardens, producing their beautiful Flowers in May and June; and are very proper

per to mix with other Flowers, for Pots to adorn Chimneys or Halls, at that Season.

They are all raised by sowing the Seeds, or parting the old Roots; but the former Method is chiefly practised; for the old Roots are very apt to degenerate after they have blown two Years, and become quite plain.

The Seeds should be sown in a Nursery-bed in *August* or *September*; for the Seeds kept till Spring seldom grow well: in the *March* following your young Plants will appear above-ground; you must therefore clear them from Weeds, and if the Season should be dry, refresh them with Water, that they may gather Strength.

In the Beginning of *May* these Plants will be strong enough to transplant; you must therefore prepare some Beds of good fresh undung'd Earth, planting them therein at eight or nine Inches Distance every Way, keeping them clear from Weeds, and refreshing them with a little Water, as they may require it.

At *Michaelmas* you may remove them into the Borders of the Flower-garden, and the *May* following they will produce Flowers; but if you intend to maintain their Roots, you should not suffer them to seed, but crop off all their Flower-stems as the Flowers are past.

But in order to be sure of having no single or bad Flowers in your Borders, you may suffer them to remain in the Nursery-beds until they have blown; at which time you may stick a Stake by each Root you fancy to preserve, and pull out all the single or bad-coloured ones, and throw them away, cutting off all the Flowers from your best Roots as soon as they have shewn themselves, which will greatly add to the preserving

them fair in their Colours; and these Roots will be strong enough to divide at *Michaelmas*, when you may transplant them into your Borders; but do not divide them too small, which will weaken their Bloom the succeeding Year.

In order to keep up a Succession of good Flowers, you should sow fresh Seeds every Year; and if you can meet with a Friend, at some Distance, who is furnish'd with good Flowers of this Kind, it will be very advantageous to both Parties, to exchange Seeds once in two Years; by which means they will not be apt to degenerate into plain Colours.

In saving the Seeds of the variegated Columbines, great Care should be taken not to suffer any plain Flowers to remain for Seed; there being generally some plain Flowers intermixed with the striped ones in the same Plant, and often in the same Branches: these should be cut off; for if they are permitted to seed, they will degenerate into plain Colours; so that there cannot be too much Care taken in saving the Seeds, where the Beauty of their Flowers is regarded.

The Rose Columbines are of various Colours, some of which are beautifully variegated: the Flowers of these differ in their Make from the common Sort, these having none of the horned Petals, but only plain ones; such as are intermixed with the horned ones of the double Flowers of the common Sort; but as the Seeds of these often introduce Plants of the common Sort, so we may reckon it only as a Variety of that; though, from Numbers of Trials, I could never raise one of these from the Seeds of the common Sort; but I have several times had the common Sort raised from the Seeds of this.

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The starry Columbine differs from both the others, in having sharp-pointed Petals, which appear like the Rays of a Star: of this Sort there are a great Variety of Colours, some of which are very beautiful: these often degenerate to the common Columbines, in the same manner as the Rose-columbine; but are rarely produced from the Seeds of the common Sort.

The two *Canada* Columbines flower almost a Month before the other Sorts; for which Reason they are preserved in the Gardens of the Curious, though there is no very great Beauty in their Flowers. These rarely produce good Seeds in *England*, so that they are only propagated by parting of their Roots; but their Seeds may be procured from *Virginia*, where they grow wild in the Woods.

The first Sort grows wild in the Woods, in several Parts of *England*; but particularly about *Chatham* and *Maidstone* in *Kent*: this is placed in the Catalogue of Medicinal Plants; but is now very rarely used in Physic.

The fourth Sort I found growing wild in the Park of *Robert Fenwick, Esq;* near *Ingleborough hill*, in *Yorkshire*.

ARACHIS, Earth or Ground-nut.

The Characters are;

It hath a pea-bloom Flower: the Empalement is divided into two Parts: the Flower is succeeded by a rough cylindrical Pod, containing one or two cylindrical Seeds.

We have but one Species of this Plant; viz.

ARACHIS. *Lin.* The native Country of this Plant, I believe, is *Africa*, though, at present, all the Settlements in *America* abound with it;

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but many Persons, who have resided in that Country, affirm, they were originally brought with the Slaves from *Africa* thither, where they have been spread all over the Settlements.

It multiplies very fast in a warm Country; but, being impatient of Cold, it cannot be propagated in the open Air in *England*: therefore whoever has an Inclination to cultivate this Plant, must plant the Seeds on an Hot-bed in the Spring of the Year, keeping it covered with Glasses till the Middle or End of *June*; after which time, if the Weather proves warm, they may be exposed to the open Air. The Branches of this Plant trail upon the Ground; and the Flowers (which are yellow) are produced single upon long Footstalks; and as soon as the Flower begins to decay, the Germen is thrust under-ground, where the Pod is formed and ripened; so that unless the Ground is opened, they never appear: the Negroes kept this a Secret among themselves; therefore could supply themselves with these Nuts unknown to their Masters. The Roots of these Plants are annual; but the Nuts under-ground sufficiently stock the Ground in a warm Country, where they are not very carefully taken up. In *South-Carolina* there is great Plenty of these Nuts; which the Inhabitants roast, and make use of as Chocolate.

This was by former Botanists called *Arachidna*; and by some it hath been ranged with the Vetches.

ARALIA, Berry-bearing Angelica.

The Characters are;

The Flower consists of many Leaves, which expand in form of a Rose, which are naked, growing on the Top of the Ovary: these Flowers are succeeded

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seeded by globular Fruit, which are soft and succulent, and are full of oblong Seeds.

The Species are ;

1. *ARALIA Canadensis*. Tourn. Canada berry-bearing Angelica.

2. *ARALIA caule aphylo, radice repente*. D. Sarrazin. Tourn. Berry-bearing Angelica, with a naked Stalk, and creeping Root.

3. *ARALIA arborescens spinosa*. Vaill. Angelica-tree, *vulgo*.

The two first Species die to the Surface every Year, and rise again the succeeding Spring ; and in July and August produce their Flowers ; and, if the Season is warm, perfect their Fruit in September.

These are propagated either by sowing their Seeds, or by parting of their Roots ; which last, being the most expeditious Method, is commonly practis'd in England ; for the Seeds often abide in the Ground until the second Year before they arise, and are two Years more before they flower.

They love a good fresh Soil, not too wet ; and should be planted either in Autumn, or early in the Spring ; and are very hardy in respect to Cold.

The third Sort grows with us to the Height of eight or ten Feet : it has produced Flowers in the Physic-garden at Chelsea two or three times ; but has not perfected its Seeds in England that I have yet heard.

This Shrub requires a dry Soil, and a warm Situation, otherwise it is subject to be injured by Frosts in the Winter : this is only propagated by Seeds, which are frequently brought from America.

ARBOR CAMPHORIFERA.

Vide Laurus.

ARBOR CORAL. *Vide* Coral-lodendron.

ARBOR JUDÆ. *Vide* Cercis.

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ARBUTUS, The Strawberry-tree.

The Characters are ;

It is ever-green : the Leaves are oblong, and serrated on the Edges : the Flowers consist of one Leaf, and are shaped like a Pitcher : the Fruit is of a fleshy Substance, and, in its outward Appearance, very like a Strawberry ; but is divided into five Cells, in which are contained many small Seeds.

The Species are ;

1. *ARBUTUS folio serrato*. C. B. The common Strawberry-tree.

2. *ARBUTUS folio serrato, flore oblongo, fructu ovato*. Michel. Hort. Pis. Strawberry-tree with longer Flowers, and egg-shap'd Fruit.

3. *ARBUTUS folio serrato, flore duplici*. Strawberry-tree with double Flowers.

The Tree has its Name from the Resemblance the Fruit bears to that of a Strawberry, but is of an austere sour Taste ; though I have been inform'd, that in Ireland, where this Tree abounds, the Fruit is sold and eaten. In England they are chiefly brought to the Markets with small Branches of the Tree, having small Bunches of Flowers upon them, and made up into Nosegays with other Flowers, and some Sprigs of the *Amomum Plinii*, or Winter-cherry ; which, at that Season, is very acceptable, when there are few Flowers to be had.

The time of this Fruit being ripe is in the Months of October and November ; at which Season the Flowers are blown for the next Year's Fruit, so that from the time of flowering to the ripening of the Fruit, is one whole Year.

The best Method of propagating these Trees is by sowing their Seeds, which should be preserved in dry Sand till March ; at which time you should

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should sow them upon a very moderate Hot-bed (which greatly promotes its Vegetation), covering it about a Quarter of an Inch with light Earth, and screening it from Frosts, or great Rains. Toward the Latter-end of *April* your young Plants will begin to appear; you must therefore keep them clear from Weeds, and give them frequent Waterings, as the Season may require, and shade them in hot Weather; and if your Plants have done well, they will be, by Autumn, about five or six Inches high: but as these Trees are subject to receive Damage from Frosts, especially while they are young, therefore you must hoop the Bed over, that when bad Weather comes, you may cover it with Mats and Straw to keep out the Frost.

The Beginning of *April* following you may transplant these Trees, each into a small Pot; but in doing of this, be very careful to take them up with as much Earth to their Roots as possible; for they are bad-rooting Plants, and very subject to miscarry on being removed; and it is for this Reason that I advise their being put into small Pots: for when they have filled the Pot with Roots, they may be turned out into large Pots, or the open Ground, without any Hazard of their dying.

When you have put your Plants into the small Pots, you should plunge them into another very moderate Hot-bed, to encourage their taking new Root, shading them from the Sun in the Middle of the Day, and giving them Water as they may require: in this Bed it will be proper to let the Pots remain most Part of the Summer; for if the Pots are taken out, and set upon the Ground, the Smallness of their Size will occasion the Earth in them to dry so fast, that Watering will scarcely preserve

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your Plants alive; but if they are kept growing all the Summer, they will be near a Foot high by the next Autumn: but it will be adviseable to screen them from the Frost during their Continuance in Pots, by plunging them into the Ground in a warm Place, and covering them with Mats in bad Weather.

When your Trees are grown to be three or four Feet high, you may shake them out of the Pots into the open Ground in the Places where they are to remain: but this should be done in *April*, that they may have taken good Root before the Winter; which will be apt to damage them, if newly planted.

These Trees are tolerably hardy, and are seldom hurt, except in extreme hard Winters; which many times kill the young and tender Branches, but rarely destroy the Trees: therefore however dead your Trees may appear after an hard Winter, I would advise you to let them remain till the succeeding Summer has sufficiently demonstrated what are living, and what are dead; for the Winter *Anno* 1728-9. and 1739-40. gave us great Reason to believe most of the Trees of this Kind were destroyed; and many People were so hasty, as to dig up, or cut down, many of their Trees; whereas all those People who had Patience to let their Trees remain, found, that scarce one in five hundred failed to come out again the next Summer, and made handsome Plants that Season.

This Tree delights in a moist Soil; for when they are planted in dry Ground, they seldom produce much Fruit: the Flowers of this Tree, being produced in Autumn, if the Winter proves severe, are generally destroyed; which has occasion'd their producing very little Fruit in *England* for some Years past; therefore,
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In order to obtain Fruit, the Trees should be placed in a warm Situation; and where the Ground is not naturally moist, there should be a Quantity of good Loam and rotten Neat's-dung laid about their Roots; and if the Spring should prove dry, they must be plentifully watered, in order to have Plenty of Fruit.

The Sort with double Flowers is a Variety which has been accidentally produced from Seed: the Fruit of this I have not yet seen, having only observed this Variety in some small Plants: but I have been informed of a large Tree of this Sort, which has produced Fruit. As the Flowers of this Sort are not very double, they may be succeeded by Fruit; or, at least, there may be many single Flowers on the same Tree, which may produce the Fruit.

The very best Season for transplanting the Arbutus is in September, at which time the Blossoms are beginning to appear; and at that Season, if they are kept moist, they will take Root very soon; but toward the Beginning of November, their Roots should be well covered with Mulch, to keep out the Frost.

ARCTOTIS: this hath been usually known under the Title of Anemonospermus, from the Resemblance the Seeds of these Plants have to that of the Anemone. We have no English Name for this Plant.

The Characters are;

The Flower is radiated like the Marigold: the Empalement is hemispherical and scaly, the Scales lying over each other in a neat manner: the Seeds are copiously surrounded with a soft Down, like those of the Anemone.

The Species are;

1. ARCTOTIS foliis pinnatis, caule herbaceo, petalis radii profunde tri-

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fidis. Flor. Leyd. Annual Arctotis, with an herbaceous Stalk, pinnated Leaves, and the Rays of the Flowers deeply cut into three Parts.

2. ARCTOTIS foliis lanceolatis-linearibus integris denticulatis. Lin. Arctotis with narrow spear-shaped Leaves indented on the Sides.

3. ARCTOTIS foliis pinnato-sinuatis, laciniis oblongis dentatis. Lin. Arctotis with sinuated-pinnated Leaves, with long Indentures, and a beautiful orange-coloured Flower.

4. ARCTOTIS foliis ovatis dentatis, petiolis longissimis, superne dentatis, caule ramoso. Lin. Arctotis with oval indented Leaves, with long Footstalks, whose Upper-side is indented, and a branching Stalk.

5. ARCTOTIS foliis pinnato-sinuatis, laciniis latis obtusis, caule arboreo ramosissimo. Arctotis with pinnated-sinuated Leaves, whose Jags are broad and obtuse, and a branching woody Stem.

6. ARCTOTIS humilis, foliis cordato-sinuatis rigidis nervosis, floribus amplis luteis. Dwarf Arctotis, with heart-shaped jagged-ribbed Leaves, and an ample yellow Flower.

7. ARCTOTIS humilis, foliis linearis-lanceolatis, superne dentatis, subtus albicantibus, petiolis longissimis. Dwarf Arctotis, with narrow spear-shaped Leaves, indented at the Upper-part, white underneath, and very long Foot-stalks.

These Plants are Natives of the Country about the Cape of Good Hope, from whence they have been brought to some curious Gardens in Holland; where there are several other Species, which are not as yet in the English Gardens.

The first Sort here mentioned is an annual Plant, which should be sown upon a moderate Hot-bed, toward the Middle or End of March:

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and when the Plants are fit to transplant, they should be each put into a single Pot; and as soon as they are well rooted, they must by degrees be inured to the open Air, into which they should be placed as soon as the Weather is warm, and will require much Water in dry Weather; for their Roots soon fill the Pots, and will root through the Holes into the Ground, if they stand long unremoved. This Plant may also be sown upon a warm Border of light Earth in the open Air, in the Middle of *April*, where they are designed to remain: these will flower in *August*, and if the Season proves favourable, they will perfect Seeds very well, and these Plants will grow much stronger than those rais'd upon an Hot-bed; but, as in cold Seasons these may fail to perfect their Seeds, it will be a secure Method to raise some upon the Hot-bed, which never fails to perfect Seeds.

The sixth and seventh Sorts are low Plants, seldom rising in Stem above four or five Inches, their Leaves spreading near the Surface of the Ground; the Flowers are produced upon single Footstalks arising from the Centre of the Plants: these flower in *April* or *May*, when they make a fine Appearance; but they seldom perfect their Seeds in *England*; therefore are propagated by Cuttings; but as they are Plants of a small Growth, they do not increase very fast here. The best Way to obtain good Seeds of these Plants is, to expose them to the open Air when they are in Flower; for if they are drawn weak by being kept in the House, they never produce any good Seeds.

The second, third, fourth, and fifth Sorts grow to the Height of four or five Feet; and the fifth,

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sometimes, to six or seven, sending forth many Branches; therefore will require to be frequently pruned, to keep them in tolerable Order, especially the fifth; which sends forth strong rambling Shoots, when their Roots are not much confined in the Pots, and if they are duly watered.

They are propagated by planting Cuttings of them in a Bed of light fresh Earth, in any of the Summer-months; observing to shade them from the Heat of the Sun until they have taken Root, as also to refresh them often with Water; and, in six Weeks or two Months after planting, they will be sufficiently rooted; at which time you should transplant them into Pots filled with the like fresh Earth, setting the Pots in a shady Place until the Plants are settled in their new Earth; after which time, you should expose them to the open Air until the Latter-end of *October*, or later, according as you find the Weather is favourable; when you must remove the Pots into the Green-house, where they should be placed as near the Window as possible, that they may have a good Quantity of free Air at all times when the Weather is mild; nor should they be over-hung by other Plants, which would occasion them to take a Mouldiness, and rot: you must also frequently refresh them with Water, giving it them plentifully in mild Weather, otherwise their Leaves and Branches will hang down and wither: in Summer they can scarce have too much Water given them, if the Pots are not stopped, so that the Water cannot get thro' the Holes at the Bottom. They will also require to be shifted into other Pots two or three times at least every Summer; and the Pots should be frequently removed, to prevent the

the Plants from striking their Roots thro' the Holes of the Pots into the Ground, which they are very apt to do, and then they will shoot very vigorously; but when these Roots are torn off, by removing the Pots, the Plants are often killed.

All these Plants should be frequently renewed by Cuttings, because the old Plants are subject to decay in Winter; therefore, if young Plants are not annually raised, the Species may soon be lost.

If the Green-house, in which these Plants are placed in Winter, is subject to Damps, it will be very difficult to preserve them; for when the Windows are kept close, the tender Parts of their Shoots are very subject to a Mouldiness, which will soon cause the Plants to decay, if it is not constantly cleaned off, and free Air admitted to dry off the Damps.

ARGEMONE, Prickly Poppy.

The Characters are;

It hath an annual Root: the Leaves are lacinated, or jagged; which are terminated with Spines: the Flower consists of many Leaves, which expand in form of a Rose: the Pointal of the Flower becomes a large trigonical Vessel, which is diuidea into three Cells, wherein are contained many globular black Seeds.

There is but one Species of this Plant known; which is,

ARGEMONE *Mexicana*. Tourn.
The Prickly Poppy.

This is an annual Plant, which is very common in most Parts of the West-Indies; and is, by the Spaniards, call'd *Fico del Inferno*, or the Devil's Fig: there is no great Beauty nor Use of this Plant amongst us, that I know of: but whoever hath a mind to cultivate it, should sow it on a Bed of light Earth, in the Spring, where it is to remain: and if it comes up too thick, the Plants must be

thinned out to four Inches Distance; where, when once it has shed its Seeds, there will not want a Supply of Plants for several Years after. I am informed, that Gumbouge is made from the Juice of this Plant.

ARIA THEOPHRASTI. Vide Cratægus.

ARISARUM, The Herb Friers-cowl.

The Characters are;

It agrees with the Dragon and Arum; from both which this Plant differs, in having a Flower resembling a Cowl.

The Species are;

1. ARISARUM *latifolium majus*. C. B. P. 169. Broad-leav'd Friers-cowl.

2. ARISARUM *angustifolium Dioscoridis, forte*. C. B. P. Narrow-leav'd Friers-cowl.

3. ARISARUM *flore in tenuem caudam abeunte*. Inst. R. H. Friers-cowl with a Flower ending in a small Tail.

4. ARISARUM *triphyllum Americanum, amplioribus foliis*. Inst. R. H. Three-leav'd American Friers-cowl, with large Leaves.

5. ARISARUM *triphyllum minus, pene atro-rubente*. Banist. Small three-leav'd Friers-cowl, with a dark-red Pointal.

The three first Sorts are found wild in Spain, Portugal, and the South of France, from whence their Seeds have been procured by some curious Persons, who preserve them in their Gardens, for the sake of Variety. They are propagated by Off-sets, which they send forth in Plenty: these should be taken off from the old Roots, about the Middle of September, which is the proper Season for transplanting them, their Leaves being, at that time, almost decayed. These Plants never rise very high, so should be placed amongst others

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of low Growth; otherwise they may be overborn by their neighbouring Plants, and destroyed. They should have a fresh undunged Soil, and a Situation not too much exposed to the Sun. They flower in May; but rarely produce any Seeds in our Climate.

The fourth Sort is a Native of the warmer Parts of *America*; so must be preserved in Pots, and housed in Winter; otherwise it will not live in this Country.

The fifth is a Native of the Northern Parts of *America*, and will live in the open Air in *England*, provided it is planted in a sheltered Situation. These Plants decay to the Root every Winter, and rise again the following Spring.

ARISTOLOCHIA, Birthwort.

The Characters are;

The Stalks are flexible: the Leaves are placed alternately on the Branches: the Flowers consist of one Leaf, and are of an anomalous Figure, hollowed like a Pipe, and shaped like a Tongue, generally hooked: the Flower-cup turns to a membranous, and, for the most part, oval-shaped Fruit, which is divided into five Cells, and full of flat Seeds.

The Species are;

1. ARISTOLOCHIA *flore ex purpurea nigro*. C. B. P. The round-rooted Birthwort.

2. ARISTOLOCHIA *longa vera*. C. B. P. True long-rooted Birthwort.

3. ARISTOLOCHIA *clematidis recta*. C. B. P. The climbing Birthwort.

4. ARISTOLOCHIA *Pistolochia dicta*. C. B. P. Spanish Birthwort.

5. ARISTOLOCHIA *Pistolochia dicta Cretica, folio smilacis, semper-virens*. H. L. The ever-green Birthwort from *Crete*.

6. ARISTOLOCHIA *polyrrhizos, auriculatis foliis. Virginiana*. Pluk. Phyt. *Virginian Snakeroot*.

7. ARISTOLOCHIA *erecta, flore atro-purpureo, foliis angustis, radice repente*. Plum. Cat. Narrow-leav'd upright Birthwort, with creeping Roots, commonly called *Contrayerva* in *Jamaica*.

8. ARISTOLOCHIA *folio cordiformi, flore longissimo atro-purpureo, radice repente*. Plum. Cat. Creeping-rooted Birthwort, with long yellowish-purple Flowers, and an heart-shap'd Leaf.

9. ARISTOLOCHIA *scandens, foliis laurinis, fructu maximo*. Climbing Birthwort, with Laurel-leaves, and the largest Fruit.

The first and second Sorts are used in Medicine; but, as they are very rare in *England*, their Roots are brought from the Southern Parts of *France*, where they are very common, and are sold in the Shops. These Plants are both tolerably hardy, and will endure the Cold of our ordinary Winters very well, in the full Ground. These Roots should be planted early in the Spring, before they begin to shoot, in a warm Situation; and should have a fresh light Soil, rather dry than moist. They should be planted six Inches deep in the Earth, that they may be less exposed to the Frost; and in Summer the Drought will not so soon affect them. They will shoot up about two Feet high, with slender trailing Stalks, and produce their Flowers in *June*; and, in a kindly Season, they will perfect their Seeds in this Country. It will be very proper to have some Roots of each Sort in Pots, which may be sheltered under a Frame in very severe Frosts, so that the Kinds may be preserved, if those in the full Ground should be destroyed.

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The third Sort is sometimes used in Medicine. This is a mischievous Plant for creeping at the Root; so that if once it has taken in a Garden, it will be difficult to extirpate again, and will destroy whatever Plants grow near it; therefore it should be planted in some abject Part of the Garden by itself, for it will thrive in almost any Soil or Situation.

The fourth and fifth Sorts grow wild in *Spain, Italy*, and the South of *France*; but in *England* they are preserved, for Variety, in Botanic Gardens. These must be planted in Pots filled with light rich Earth, and sheltered from severe Cold in Winter, otherwise they will be destroyed thereby; but they should have as much free Air as possible in mild Weather. These produce Flowers every Year; but never perfect their Seeds in this Country.

The sixth Sort is the Snakeroot, which is greatly used in Medicine; but these Roots are brought over from *Virginia* and *Carolina*, where there are two or three Species of this Plant. In *England*, it is preserved as a Curiosity, in Pots filled with fresh light Earth, and requires to be sheltered from severe Cold in Winter; in Summer they must be frequently watered, and should be placed in a well-sheltered Situation, where, in a good Season, they will perfect their Seeds, by which new Plants may be obtained. These Seeds should be sown on an Hot-bed early in the Spring; and when the Plants are come up, they must be transplanted into Pots, and managed as hath been directed for the old Plants.

The seventh, eighth, and ninth Sorts are Natives of the warmest Parts of *America*; so must be preserved with great Care in this Climate.

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mate. These may be propagated by sowing their Seeds in the Spring: the best Method to raise them is, to sow the Seeds in Pots filled with fresh light Earth, and plunge them into an Hot-bed of Tanners Bark: in about a Month or five Weeks after the Seeds are sown, the Plants will begin to appear: when the Plants are advanced to be about two Inches high, they should be carefully transplanted, each into a separate Pot filled with fresh light Earth, and should then be plunged into the Hot-bed again.

About the Beginning of *August* these Plants will have filled the Pots with their Roots, when they should be shaken carefully out of the Pots, and their Roots trimmed; then they should be planted into larger Pots filled with the same fresh Earth as before; and those which are of low Growth should be plunged into the Hot-bed again; but the taller should be plunged into the Bark-stove, especially the ninth Sort, which will rise to a great Height.

The seventh Sort is known in *Jamaica* by the Name of Contrayerva, and is greatly used as an Alexipharmac, by the Inhabitants of that Island.

All these three Sorts will require to be kept in the Bark-stove, otherwise they will not thrive in this Climate.

ARMENIACA, Apricot.

I shall enumerate all those Sorts which are commonly cultivated in *England*; where this Fruit is generally in as great Perfection as in most of our neighbouring Countries, especially when they are not planted upon a Soil too hot, or against the warmest-aspected Walls.

We have in the *English* Gardens about seven Sorts of this Fruit cultivated; which are,

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1. The Masculine Apricot.
2. The Orange Apricot.
3. The *Algier* Apricot.
4. The *Roman* Apricot.
5. The *Turky* Apricot.
6. The *Breda* Apricot.
7. The *Brussels* Apricot.

The Masculine is the first ripe of all the Apricots; it is a small, roundish Fruit, of a red Colour towards the Sun; as it ripens, the Colour fades to a greenish Yellow on the other Side. It is only preserved for being the first ripe, having little Flavour; the Tree is very apt to be covered with Flowers; but as they come out early in the Spring, they are frequently destroyed by the Cold, unless the Trees are covered to protect them.

The Orange is the next ripe Apricot; this Fruit is much larger than the former; and, as it ripens, changes to a deep-yellow Colour. The Flesh of this is dry, and not high-flavour'd; it is better for Tarts than for the Table.

The *Algier* is the next in Season; this is of an oval Shape, a little compressed on the Sides; it turns to a pale-yellow, or Straw-colour, when ripe; the Flesh is dry, and not high-flavour'd: this, and what is by some Persons called the common Apricot, are often confounded.

The *Roman* is the next ripe Apricot: this is a larger Fruit than the former, and not compressed on the Sides; the Colour is deeper, and the Flesh is not so dry as the former.

The *Turky* Apricot is yet larger than either of the former, and of a globular Figure; the Fruit turns to a deeper Colour than the former; the Flesh is firmer, and of an higher Flavour, than either of the former.

The *Breda* Apricot, as it is called from its being brought from thence

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into *England*, was originally brought from *Africa*: this is a large, roundish Fruit, changing to a deep Yellow when ripe; the Flesh is soft, full of Juice, and of a deep Orange-colour withinside; the Stone is rounder and larger than of the other Sorts: this is the best Apricot we have; and, when ripened on a Standard, is preferable to all other Kinds.

The *Brussels* is the latest ripe of all the Apricots; for when it is planted against a Wall, it is generally the Beginning of *August* before it is ripe, unless when it is planted to a full South Aspect; which is what should not be practised, because the Fruit is never well-tasted which grows in a warm Exposure. This Fruit is of a middling Size, rather inclining to an oval Figure; red on the Side next the Sun, with many dark Spots, and of a greenish-yellow on the other Side; the Flesh is firm, and of an high Flavour; the Fruit often cracks before it is ripe. This is commonly preferred to the former Sort by most People; but, when the other is planted as a Standard, the Fruit is fuller of Juice, and of a richer Flavour, than this.

Most People train these Trees, when they are designed for Standards, up to Stems of six or seven Feet high, or bud them upon Stocks of that Height; but this is a Practice I would not recommend, because the higher the Heads of these Trees are, the more they are exposed to the cutting Winds in the Spring, which too frequently destroy the Blossoms; and the Fruit is also more liable to be blown down in Summer, especially if there should happen to be much Wind at the time when the Fruit is ripe; which, by falling from a great Height, will be bruised and spoiled; therefore I prefer Half-standards, of about two
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and an half, or three Feet in the Stem, to those which are much taller; or to plant them as Dwarfs against an Espalier, where, if they are skilfully managed, they will produce a large Quantity of good Fruit; and the Trees in Espalier may be more conveniently covered in the Spring, when the Season proves bad; whereby there will be a Certainty of Fruit every Year.

These Fruits are all propagated by budding them on Plum-stocks, and will readily take upon almost any Sort of Plum, provided the Stock be free and thriving, except the *Brussels* Kind, which is usually budded on a Sort of Stock, commonly called the St. Julian, which better suits this Tree, as being generally planted for Standards, than any other Sort of Plum will. The manner of raising the Stocks, and budding these Trees, shall be treated of under their particular Articles, to which I refer the Reader, and shall proceed to their Planting and Management.

These Trees are all, except the two last Sorts, planted against Walls, and should have an East or West Aspect; for if they are planted full South, the great Heat causes them to be mealy before they are well eatable.

The Borders under these Walls should be six Feet wide, at least, and, if it were more, the better; but I would never advise the making of them so deep as is the general Custom; for if the Earth be two Feet deep, or two and an half at most, it is enough.

If your Ground is a wet cold Loam or Clay, you should raise your Borders as much above the Level of the Surface as it will admit, laying some Stones or Rubbish in the Bottom, to prevent the Roots from

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running downwards; but if you plant upon a Chalk or Gravel, you must remove it to a considerable Width, to make room for a good Soil to be put in; but you need not go above two Feet and an half deep at most.

The Soil I would in general advise to be used for these, and all other Sorts of Fruit-trees, is fresh untry'd Earth, from a Pasture-ground, taken about ten Inches deep, with the Turf, and laid to rot and mellow at least twelve Months before it is used; and this must be kept often turned, to sweeten and imbibe the nitrous Particles of the Air.

When the former Soil of the Border is taken away, this fresh Earth should be carried in the Place; and, if the Borders are filled with it two Months before the Trees are planted, the Ground will be better settled, and not so liable to sink after the Trees are planted: in filling of the Borders the Ground should be raised four or five Inches above the Level they are designed, to allow for the Settling.

Your Borders being thus prepared, make choice of such Trees as are but of one Year's Growth from budding; and, if your Soil is dry, or of a middling Temper, you should prefer *October* as the best Season for Planting, especially having, at that time, a greater Choice of Trees from the Nurseries, before they have been picked and drawn over by other People. The manner of preparing these Trees for Planting being the same in common with other Fruit-trees, I shall refer the Reader to the Article of Peaches, where he'll find it largely treated of.

Your Trees being thus prepared, you must mark out the Distances they are to stand, which, in a good

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strong Soil, or against a low Wall, should be twenty Feet or more; but, in a moderate one, eighteen Feet is a good reasonable Distance; then make an Hole where each Tree is to stand, and place its Stem about four Inches from the Wall, inclining the Head thereto; and, after having fixed the Tree in the Ground, nail the Branches to the Wall, to prevent their shaking; then cover the Surface of the Ground round the Root with rotten Dung, to keep out the Frost: in this State let it remain till *February*, when, if the Weather is good, you must un-nail the Branches of your Trees, so as not to disturb their Roots; and, being provided with a sharp Knife, put your Foot close to the Stem of the Tree; and, having placed your Left-hand to the Bottom of the Tree, to prevent its being disturbed, with your Right-hand cut off the Head of the Tree, to about four or five Eyes above the Bud, so that the sloping Side may be toward the Wall.

In the Spring, if the Weather proves dry, you must, now-and-then, give your Trees a gentle Refreshing with Water; in the doing of which, if you observe to water them with a Rose to the Watering-pot, all over their Heads, it will greatly help them; and also lay some Turf, in the manner directed for Apples, or some other Mulch, round the Roots, to prevent their drying during the Summer-season: as new Branches are produced, observe to nail them to the Wall in an horizontal Position; and such Shoots as are produced fore-right, must be intirely displaced. This must be repeated as often as is necessary, to prevent their hanging from the Wall; but by no means stop any of the Shoots in Summer.

At *Michaelmas*, when the Trees have done growing, you must un-

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nail their Branches, and shorten them in proportion to their Strength; a vigorous Branch may be left eight or nine Inches long, but a weak one should not be left above five or six. I suppose many People will wonder at this Direction, especially having allowed such a Distance between the Trees, as believing, by this Management, the Wall will never be filled; but my Reason for it is, that I would have no Part of the Wall left unfurnished with Bearing-wood; which must consequently be the Case, if the Branches are left to a great Length at first; for it seldom happens, that more Buds than two or three shoot for Branches; and these are, for the most part, such as are at the extreme Part of the last Year's Wood; so that all the lower Part of the Shoots become naked, nor will they ever after produce Shoots; and this is the Reason we see so many Trees which have their Bearing-wood situated only in the extreme Part of the Tree.

When you have shortened the Shoots, be sure to nail them as horizontally as possible; for upon this it is that the future Good of the Tree chiefly depends.

The second Summer observe, as in the first, to displace all fore-right Shoots, as they are produced, nailing-in the other close to the Wall horizontally, so that the Middle of the Tree may be kept open; and never shorten any of the Shoots in Summer, unless to furnish Branches to fill vacant Places on the Wall; and never do this later than *April*, for Reasons hereafter given in the Article of Peaches. At *Michaelmas* shorten these Shoots, as was directed for the first Year; the strong ones may be left nine or ten Inches, and the weak ones six or seven at most.

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The following Year's Management will be nearly the same with this; but only observe, that Apricots produce their Blossom-buds, not only upon the last Year's Wood, but also upon the Curfons or Spurs, which are produced from the two Years Wood: a great Care should therefore be had in the Summer-management, not to hurt or displace these: observe also to shorten your Branches at the Winter-pruning, so as to furnish fresh Wood in every Part of the Tree; and be sure to cut out intirely all luxuriant Branches, or displace them as soon as they are produced; which, if left to grow, would exhaust the Nourishment from the bearing Branches, which, in my Opinion, cannot be too strong, provided they are kindly; for the more vigorous your Tree is, the more likely it is to resist the Injuries of the Weather; and I have often seen Trees brought to so weak a Condition, as to be able only faintly to blow their Blossoms, and then most or all of the bearing Branches have died; which has given Occasion to the Owner to imagine it was the Effect of a Blight, when, in reality, it was only for want of right Management. And, I am fully persuaded, half the Blights we hear complained of, proceed from nothing else but this.

These few Rules, well executed, together with a little Observation and Care, will be sufficient; and, to pretend to prescribe particular Directions for all the different Accidents, or manner of treating Fruits, would be impossible; but I believe the Reader will find what has been said, if duly attended to, will answer his Design; for, without diligent Observation, there can be no such thing as a skilful Manager, let him

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have ever so many or good Instructions laid down to him.

The *Brussels* and *Breda* Apricots, being, for the most part, planted for Standards, will require very little Pruning or Management; only observe to take out all dead Wood, or such Branches as cross each other; this must be done early in Autumn, or in the Spring, after the cold Weather is past, that the Part may not canker where the Incision is made.

ARMERIUS, Sweet - William.
Vide Caryophyllus Barbatius.

ARTAPHAXIS, Creeping shrubby Orrach.

The Characters are;

It hath blink Flowers, somewhat like Orrach: the Empalement of the Flower is of two Leaves: the Flower is of two Leaves, which are larger than those of the Empalement: there are six Stamina accompanying the Ovarium: the Empalement incloses the Ovarium, which turns to a single Seed.

The Species are;

1. ARTAPHAXIS *inermis, foliis undulatis. Lin.* Trailing shrubby Orrach, with waved Leaves.
2. ARTAPHAXIS *inermis, foliis planis. Lin.* Dwarf shrubby Orrach, with plain Leaves.
3. ARTAPHAXIS *ramis spinosis. Lin.* Shrubby Orrach, with prickly Branches.

The first Sort has been preserved in many Gardens of curious Plants for some Years: it came from the *Cape of Good Hope* into the Gardens of *Holland*, and has been spread into several Parts of *Europe*: the Branches of this Plant, being slender and trailing, must be supported by Sticks from lying upon the Ground. There is very little Beauty either in the Leaves or Flowers; so it is only kept for Variety: it may be easily

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propagated, by Cuttings in any of the Summer-months; and will require to be sheltered in Winter, otherwise the Plants will not live thro' the Winter in *England*.

The second and third Sorts are low shrubby Plants: these were brought from the *Levant* by Dr. *Tournefort*: the second he ranges with the Docks, and the third with the Orraches; but they agree very well in their Characters; so should be ranked in the same Genus.

These may be propagated either by Cuttings in the Spring, or by sowing the Seeds upon a shady Border in *March*: they are both pretty hardy, and will live abroad in mild Winters, if they are planted in a warm Situation; but one or two Plants may be housed, for fear those which are exposed should be destroyed.

ARTEMISIA, Mugwort.

The Characters are;

The Flowers and Fruit of this Plant are very like those of the Wormwood, but grow erect upon the Branches: the Florets are of a purplish Colour; and the Leaves, for the most part, terminate in a sharp Point, are cut into many Segments, and are of a dark-green on the Upper-side, and hoary on the other Side.

The Species are;

1. ARTEMISIA vulgaris major, caule & flore purpurascens. C. B. Common great Mugwort, with purplish Stalks and Flowers.

2. ARTEMISIA vulgaris major, caule ex viridi albicante. Tourn. Common great Mugwort, with whitish-green Stalks.

3. ARTEMISIA foliis ex luteo variegatis. H. R. P. The yellow-striped Mugwort.

4. ARTEMISIA foliis ex albo variegatis. The white-striped Mugwort.

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The first of these Species is very common upon dry Banks and Dung-hills in divers Parts of *England*, and is rarely admitted into a Garden. The second Sort is a Variety of the first, which is rarely found in *England*: but the third and fourth Sorts are only preserved in Gardens, for the Beauty of their variegated Leaves. These Sorts may all be propagated by parting of their Roots either in Spring or Autumn, and will grow in almost any Soil or Situation; but, as they are subject to spread very far, and soon over-run a large Spot of Ground, they should be confined, by cutting off their Side-shoots, to keep them within Compass; nor should they be planted too near to other Plants, lest, by their spreading Roots, they should overbear and destroy them.

The first Species of this Plant is used in Medicine: the Plant is commonly gathered by the Herb-women in the Fields, and brought to the Markets: it is from one Species of Mugwort, and not improbably the first, that the famous Moxa, which is used to burn for curing the Gout, is taken, it being the Lanugo, or downy Substance, which adheres to the Under-part of the Leaf.

ARTICHOKE is call'd by the Latins Cinara.

The Characters are;

It is very like the Thistle; but hath large scaly Heads, which are shap'd somewhat like the Cone of the Pine-tree: the Bottom of each Scale, as also at the Bottom of the Florets, is a thick fleshy eatable Substance.

The Species are;

1. CINARA hortensis, foliis aculeatis, & non aculeatis. C. B. The Garden-artichoke, with prickly and smooth Leaves.

2. CINARA hortensis, non aculeata, capite subrubente. H. R. P. Garden-

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den-artichoke, without Prickles, and redish Heads.

3. *CINARA sylvestris Batia*. *Clus. Cur. Post.* The wild Artichoke of *Batia*.

4. *CINARA spinosa, cujus pediculi esitantur*. *C. B. P.* The Chardon or Cardoon, *vulgo*.

I thought proper to introduce this Genus under the Name Artichoke, which being the generally-receiv'd Name of the only valuable Species, it might be better here plac'd than under the *Latin Name Cinara*.

There is at present but one Sort of Artichoke cultivated in the Gardens near *London*, which is that commonly known by the Name of the red Artichoke: formerly the green *French Sort* was the most common; but since the red Sort has been introduc'd, the other has been reject-ed, as being vastly inferior in Goodness thereto.

The manner of propagating this Plant is from Slips or Suckers taken from the old Roots in *February* or *March*, which, if planted in a good Soil, will produce large fair Fruit the Autumn following: but as this is a Plant which few Gardeners, that have not been instructed in the Kitchen-gardens near *London*, understand to manage well, I shall be the more particular in my Directions about it.

At the Latter-end of *February*, or in *March*, according to the Goodness of the Season, or Forwardness of the old Artichoke-stocks, will be the proper time for dressing them, which must be thus perform'd: With your Spade remove all the Earth from about your Stock, down below the Part from whence the young Shoots are produced, clearing the Earth from between the Shoots, so as to be able to judge the Goodness of each, with their

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proper Position upon the Stock; then make choice of two of the clearest, straightest, and most promising Plants that are produced from the Under-part of the Stock, which you are to let remain for a Crop; then with your Thumb force off all the other Plants and Buds, close to the Head of the Stock, from whence they are produc'd, and with your Spade draw the Earth about the two Plants which are left, and with your Hands close it fast to each of them, separating them as far asunder as they can conveniently be plac'd without breaking them, observing to crop off the Tops of the Leaves which hang down, with your Hands: your Ground being levell'd between the Stocks, you may sow thereon a small Crop of Spinach, which will be taken off before the Artichokes will cover the Ground; and be sure to keep them clear from Weeds; and toward the Latter-end of *April*, or the Beginning of *May*, when your Plants begin to shew their Fruit, you must carefully look over your Stocks, and draw up all young Plants from them, which may have been produc'd since their Dressing, and cut off all Suckers which are produc'd from the Stems of the Artichokes, leaving only the principal Head, by which means your Fruit will be the larger: when your Artichokes are fit to gather, you must break, or cut them down close to the Surface of the Ground, that your Stocks may make strong fresh Shoots before the End of *October*, which is the Season for Earthing, or, as the Gardeners term it, Landing them up; which is thus done:

Cut off all the young Shoots quite close to the Surface of the Ground; then dig between every Stock, raising all the Earth between each Row of Stocks into a Ridge, as is done in

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the common Method of trenching Ground, so as that the Row of Artichokes may be exactly in the Middle of each Ridge; this will be sufficient to guard them against Frost: and I would here recommend it to the Public, as infinitely preferable to long Dung, which is by the Unskilful often used, and is the Occasion of their Fruit being small, and almost without any Bottoms to them; for there is not any thing so hurtful to these, as new Dung being either buried near, or laid about them. Observe, that although I have mentioned *October* as the Season for earthing them, yet, if the Weather proves mild, it may be deferred till any time in *November*.

Since we have experienced, that, in severe Frosts, these Roots are sometimes destroyed, therefore it is proper to give some Directions to prevent it; although this rarely happens in dry Ground, in which we have but few Instances of their being killed, except in the hard Frosts of 1683. and 1739-40. In these two Winters most of the Artichokes were destroyed in *England*: in the last of these Winters, it happened from the little Care which was taken of them, there having been no Frost for so many Years before, which had injured them, that few People used any Care to preserve them; but since that hard Frost, many People have run into the other Extreme of covering all their Roots of Artichokes with long Dung every Winter, which is a very bad Method, because the Dung lying near the Roots is very apt to rot the best Plants: therefore I would advise the Earthing (or, as it is called by the Gardeners, Landing) of the Artichokes to be deferred till the Middle or Latter-end of *November*, provided the Season continues so long mild; and toward

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Christmas, if there is any Danger of severe Frosts, to lay a Quantity of long Dung, Peas-haulm, Tanners Bark, or any other light Covering, over the Ridges of Earth, which will keep out the Frost; and this, being at a Distance from the Roots, will not injure them; but this Covering should be carefully taken off the Beginning of *February*, provided the Season is mild, or at least so soon as the Weather is so, otherwise the Plants will be injured by its lying too long upon them.

It will also be a good Method, whenever any Roots of Artichokes are dug up in the Autumn, either to bury them deep in the Ground in a Pit till Spring, or lay them in a Heap, so as that they may be easily covered in hard Frosts; and these may be a Supply, if those in the Ground are destroyed.

When you have thus earth'd them up, you have nothing more to do till *February* or *March*, by which time they will have grown through the Ridge of the Earth; and, when the Weather is proper, must be dressed as was before directed.

When you have a mind to make a new Plantation, after having digged and buried some very rotten Dung in the Ground you have allotted for that Purpose, make choice of such of your Plants as were taken from your old Stocks, which are clear, sound, and not woody, having some Fibres to their Bottom; then with your Knife cut off that knobbed woody Part, which joined them to the Stock; and if that cuts crisp and tender, it is a Sign of its Goodness; but if tough and stringy, throw it away as good for nothing; then cut off the large outside Leaves pretty low, that the Middle, or Heart-leaves, may be above them. Your Plants being thus prepar'd (if the Weather

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Weather is very dry, or the Plants have been any time taken from the Stocks, it will be convenient to set them upright into a Tub of Water for three or four Hours before they are planted, which will greatly refresh them), you must then proceed to planting, which must be done by ranging a Line across the Ground, in order to their being plac'd exactly in a Row, and with a Measure-stick plant them at two Feet Distance from each other in the Rows; and if design'd for a full Crop, five Feet Distance Row from Row: your Plants must be set about four Inches deep, and the Earth closed very fast to their Roots; observing, if the Season proves dry, to keep them water'd two or three times a Week, until they are growing, after which they seldom require any.

N. B. You may sow a thin Crop of Spinach upon the Ground before you plant your Plants, observing to clear it from about them after it is come up.

These Plants, in a kindly Season, or a moist Soil, will produce the largest and best Artichokes, some time in *August* and *September*, after all those from the old Stocks are past; so that if you intend to continue your Artichokes through the whole Season, you must plant fresh every Year, otherwise you can't possibly have Fruit longer than two Months, or ten Weeks.

If any of the Plants which you planted in the Spring, should not fruit in the Autumn, you may, at the Season of earthing your Roots, tie up the Leaves with a small Willow-twig, &c. and lay the Earth up close to them, so that the Tops of the Plants may be above-ground; and when the Frost comes on, if you will cover the Top with a little Straw, or Peas-haulm, these Plants will pro-

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duce Fruit in Winter, or early in the Spring.

But if you intend to plant other things between your Artichokes, you must allow nine or ten Feet between the Rows, as is often practis'd by the Kitchen-gardeners near *London*, who sow the Ground between with Radishes or Spinach, and plant two Rows of Cauliflowers, at four Feet Distance Row from Row, and two Feet and an half Distance in the Rows between them; so that there are always five Feet allow'd for the Artichokes to grow; and in *May*, when the Radishes or Spinach are taken off, they sow a Row of Cucumbers for Pickling, exactly between the two Rows of Cauliflowers, and at three Feet Distance from each other; and between the Rows of Cauliflowers and Artichokes, plant a Row of Cabbages or Savoys for Winter-use, which, when the Cauliflowers are drawn off, and the Artichokes gather'd, will have full Liberty to grow; and by this means the Ground is fully employed through the whole Season.

In those which are planted at five Feet Distance Row from Row, you may plant in every other Row a Line of Cabbages or Savoys, for Winter-use, which will be gone by the time of landing them up; in the doing of which, you must lay the whole five Feet of Earth into one Ridge, except the Ground be extreme stiff, or the Plants young, in both which Cases you may lay only three Feet and an half: the same Compass of Ground must also be allowed where they are planted at a wider Distance.

And if, in the Spring, you find your Stocks shoot very weak, which may have been occasion'd either by hard Frosts, or too much Wet, you must then uncover them, and with
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your Spade loosen and break the Earth about them, raising a small Hill about each Stock, levelling the rest between the Rows, which will greatly help them; and in three Weeks, or a Month's time after, they are commonly fit to slip.

Those Artichokes, which are planted in a moist rich Soil, will always produce the largest and best Fruit; so that where such a Soil can be obtain'd, it will be proper to make a fresh Plantation every Spring, to succeed the old Stocks, and supply the Table in Autumn. But the Roots will not live through the Winter in a moist Soil, so that your Stocks which you intend should remain, to supply the Table early, and to furnish Plants, should be in a drier Situation. You should always observe to plant these in an open Situation, and not under the Drip of Trees, where they will draw up very tall, and produce small insignificant Fruit.

The third Sort is only preserved in Botanic Gardens for Variety: and the fourth Sort is particularly treated under the Article *Cinara*.

ARTICHOKES of *Jerusalem*.
Vide Helianthus.

ARUM, Wake-robin, or Cuckow-pint.

The Characters are;

The Leaves, which are intire, are long and triangular, and car'd or darter'd at the Base: the Flower consists of one Leaf, is of an anomalous Figure, or shap'd like an Ass's Ear: from the Bottom of the Flower rises the Pointal, accompanied with a great many Embryo's, each of which becomes a roundish Berry, containing one or two roundish Seeds.

This Plant is called Wake-robin, from the sharp acrid Taste, which, if eaten, will occasion a violent Pain in every Part of the Mouth and Throat, attended commonly with a great Defluxion of Water.

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The Species are;

1. ARUM *vulgare non maculatum*. C. B. P. Common Arum or Wake-robin.

2. ARUM *maculatum, maculis candidis*. C. B. P. Arum whose Leaves are mark'd with White.

3. ARUM *maculatum, maculis nigris*. C. B. P. Arum with black-spotted Leaves.

4. ARUM *venis albis, Italicum maximum*. C. B. P. Greatest Italian Arum, whose Leaves have white Veins.

5. ARUM *Africanum, flore albo odorato*. Par. Bat. The African Arum, with white sweet-smelling Flowers.

6. ARUM *esculentum, sagittarie foliis viridi-nigricantibus*. Sloan. Cat. Jam. The American eatable Arum, with Leaves like Spearwort.

7. ARUM *maximum Aegyptiacum, quod vulgo Colocasia*. C. B. The Egyptian Arum, vulgarly called Colocasia.

8. ARUM *maximum Aegyptiacum, quod vulgo Colocasia, cauliculis nigricantibus, Zeylanica*. H. L. Greatest Egyptian Arum or Colocasia, with blackish Stalks.

The first Sort is very common under Hedges, and by the Sides of Banks, in most Parts of England. This is directed by the College of Physicians for medicinal Use; but the second and third Sorts, which are Varieties of the first, and are often found interspersed with it, I believe, may be either of them used indifferently. These Plants are seldom kept in Gardens, being so common in the Fields, where they are usually gathered for the Markets. The best Season for taking up these Roots for Use, is in July or August, after their Leaves are decayed; for when they are taken up while their Leaves are green, the Roots shrink, and lose most of their Virtue.

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The fourth Sort is equally hardy with our common Sort, and will endure the Cold of our Winters very well. This is preserved in Botanic Gardens for Variety ; but is seldom planted in Gardens of Pleasure. All these Plants should have a light dry Soil, and require no other Culture, but to keep them clear from Weeds.

The fifth Sort produces, in the Spring, large white Flowers, upon a Pedicle four or five Feet long, making an handsome Shew in the Green-house in a Collection of Plants. The Flowers have a faint sweet Scent, but continue a long time blowing.

This is propagated by parting the Roots (which are knobbed) in *August*, when the Leaves are decayed, and must be planted in Pots filled with good rich Earth, and housed in Winter with Oranges, &c.

The sixth, seventh, and eighth Sorts are tenderer, and will not live through the Winter without a Stove ; these have large fair Leaves, but rarely produce any Flowers in *England*. The Roots of these three Sorts are quite of a different Nature from the other Arums, having a soft sweet Taste, somewhat resembling that of an Hazel-nut, and are very much eaten in *America*, where they are called Edders ; as is also the last in *Egypt*.

These are propagated in the same manner as the fifth ; but must be never expos'd to the open Air with us, which will soon deface their Leaves.

ARUNDO, The Reed.

The Characters are ;

It is of the Grass-kind, from which it differs only in Magnitude.

The Species are ;

1. ARUNDO *vulgaris palustris*. *J. B.* 2. 485. The common Reed.

2. ARUNDO *sativa, quæ Donax Dioscoridis Theophrasti*. *C. B.* The large manur'd Cane or Reed.

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3. ARUNDO *Indica variegata, seu Laconica Theophrasti*. *Cornut.* 55. The variegated Reed.

4. ARUNDO *Indica arborea, MAMBU vel BAMBU dicta*. The Bambu-cane.

5. ARUNDO *Indica arborea, amplo pediculato folio*. BAMBU *species altera*. *Raii Hist.* 1316. The other Bambu-cane.

6. ARUNDO *scriptoria atro-rubens*. *C. B. P.* Dark-red Reed, which is used as a Pen for writing.

7. ARUNDO *repens, vel chamaecalamus*. *C. B. P.* Dwarf creeping Reed.

8. ARUNDO *saccharifera*. *C. B.* The Sugar-cane. This Species is, by Dr. *Linnaeus*, made a new Genus, by the Title of *Saccharum*.

The first Sort is so very common by the Sides of Rivers, and large standing Waters, in divers Parts of *England*, that it is needless for me to say any thing of its Culture. This is cut in Autumn, when the Leaves begin to fall, and the Stems are changed brown, for making Hedges in Kitchen-gardens, and for many other Uses.

The second Sort, although a Native of a warm Country, yet will bear the Cold of our severest Winters in the open Ground : it dies to the Surface in Autumn, and rises again the succeeding Spring ; and, if kept supplied with Water in dry Weather, will grow ten or twelve Feet high the same Summer ; and is very proper to intermix with small Trees and Shrubs, or tall Plants and Flowers, in Bosquets ; where, by the Oddness of its Appearance, it will have a good Effect, in adding to the Variety. This is propagated by parting the Roots early in the Spring, before they begin to shoot, and will, in a Year or two, if your Ground be good, make very large Stools ; so that from each Clump you may have

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have twenty or thirty large Canes produced.

This Sort is brought from *Portugal* and *Spain*, and is used by the Weavers, as also to make Fishing-rods.

The third Sort is a Variety of the second, differing therefrom, in having variegated Leaves. This, being weakened by the Variegation, is of much lower Growth, and is more in Danger of being destroyed by Frost; so should be sheltered in Winter.

The two Sorts of *Bambu* are of great Service to the Inhabitants of *India*, who make most of their common Utensils of the Stems of these Canes, which grow to a prodigious Magnitude in those Countries. In *England* they are preserved as Curiosities, and require a Stove to preserve them in Winter. They require a rich light Earth, and should be frequently watered: their Roots spreading very far, they should have a large Share of room. I have known one of these Plants, when put into a large Tub, and placed in a Bark-bed in the Stove, by being often watered, produce one Stem from the Root upwards of sixteen Feet high in the Space of four Months.

The sixth Sort is what the *Turks* make their Writing-pens withal; this grows in a Valley near Mount *Arbos*, as also on the Banks of the River *Jordan*; but there are none of the Plants in *England*. This Sort may be managed as the *Bambu*; as may also the seventh Sort, which grows in *Arabia*.

The Sugar-cane is very tender, and cannot be preserved without a Stove: it is kept as a great Curiosity in the Gardens of such as love a Variety of Plants, as being the Plant from whence the Sugar is produced.

It will grow with us to the Height of eight or nine Feet, if carefully looked after; and may be propa-

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gated, by taking off the Side-shoots in the Spring, planting them in Pots of good rich Earth, plunging the Pots into an Hot-bed of Tanners Bark, to promote their taking fresh Roots, and must be often watered. The main Stem is very subject to decay with us in Winter; but the Root commonly pushes out many new Shoots: if this happens, you must mind to clear the young Shoots from the dead Leaves of the old Stem, which will much strengthen them.

The Sugar-cane is often infested by the same Insects in the Stove in *England*, which are so destructive to the Canes in *America*; and these frequently attack other Plants, which grow near them. These Insects were originally brought over upon the Plants which have been sent from the *West-Indies*; and in some Stoves have propagated so fast, as almost to cover and destroy all the Plants. Many Directions have been given to destroy these Vermin, both in *England* and *America*; but these have been tried with little Success. As I have had frequent Opportunities of making Experiments upon these Insects in the Stoves, I shall beg Leave to mention what has been the Result of those Experiments; and, if it may be of Use to the Planters in *America*, I shall think myself happy in having furnished any Hints which may be of public Benefit.

Upon finding the Plants in the Stoves greatly infested with these Insects, I prepared some Water, in which a large Quantity of Tobacco had been soaked twenty-four Hours: with this Water I washed all the Plants with Sponges, to make them as clean as possible, so that very few Insects appeared, or, at least, seemed to have Life; but, in two or three Days after, they were covered again as much as before. I then tried an Infusion

Infusion of *Guiney-pepper*, another of Brimstone, and afterwards of many other Things, needless to repeat; but found these Things were of little or no Use; nor could I, by any Washing or Cleaning, get the better of these Insects; and, seeing the Plants daily decline, I began to suspect, that the Cause of this great Increase of the Insects was from a Weakness and Distemper in the Plants: therefore I applied myself to remedy this, by taking all the Plants out of the Pots, planting them in better Earth, removed the old Tan out of the Bark-bed, and put in new; then washed the Plants with common Water, to get off as many of the Insects as I could, and plunged them into the new Tan: by this Management I recovered the Plants to a vigorous State, when the Insects left them; and this I have often repeated with the same Success; and have frequently observed, that, when Plants of the same Kind grow near each other, if one has been sickly, the Insects have spread over it, while the healthy Plants have escaped them: and, from all the repeated Trials I have made upon the Growth of Plants, I have been fully convinced, that these Insects are not the Cause, but the Effect, of the Sickness of Plants; so that, instead of applying ourselves to destroy the Insects, we should rather endeavour to recover the Plants to Health; for no healthy Plant is ever seized by these Insects; but, whenever the Perspiration of the Plant is stopped, they immediately attack it; and, by their sudden and numerous Increase, soon overspread the whole Surface of the Plant.

ASARUM, Asarabacca.

The Characters are;

The Calyx (or Flower-cup) is divided into four Parts: the Fruit is

divided into six Cells, which are filled with oblong Seeds: to which may be added, The Leaves are roundish, thick, and almost of the Colour of those of the Ivy-tree.

There are two Species of this Plant in the *English Gardens*; viz.

1. ASARUM. C. B. The common Asarabacca.

2. ASARUM *Canadense*. Cornut. The *Canada Asarabacca*.

The first of these Sorts is very common, and hath been found wild, in some Parts of *England*, though but rarely; it delights in a moist shady Place; and is increased by parting the Roots in Autumn. This is the Sort which is used in Medicine.

It is chiefly used in green Emetics for Madness; and it is a great Sternutatory; a small Quantity of the Powder of the Leaves, being mixed with Snuff, will occasion violent Sneezings.

The Powder of this Herb has been strongly recommended by the Inhabitants of *Norfolk*, to be used on Cattle when troubled with the late raging Distemper, which, if blown up the Nostrils of the sick Cattle, will occasion a violent Discharge from the Head by the Nostrils; and this, they have affirmed, has cured great Numbers of Cattle, which were at the last Stage of the Distemper.

The *Canada Sort* is tolerably hardy, and will endure our common Winters in the open Ground, being rarely hurt but by great Frosts, or planting it in a wet Soil. This is propagated as the other.

Both these Sorts preserve their green Leaves in Winter, which decay as their new ones are produced: their Flowers appear in *April*, which grow so close to the Ground, as not to be seen, unless you put away the Leaves with your Hand: the first Sort produces ripe Seeds; but it is not

not worth the Trouble of sowing, it being two Years before these Plants will have any Strength; and they are much easilier raised by Slips: the second very rarely produces good Seeds in England.

ASCLEPIAS, *Hirundinaria*, or Swallow-wort.

The Characters are;

It hath a Flower consisting of one Leaf, which is divided into five Parts, expanded in form of a Star: the Ovary becomes a Fruit, which is, for the most part, composed of two membranous Husks, which open from the Bottom to the Top, inclosing many Seeds, which are covered with a fine Down, and are fixed to the Membrane, just as Scales are disposed upon the Skins of Fishes: this Plant hath no milky Juice, wherein it differs from the *Dogs-bane*.

The Species are;

1. ASCLEPIAS *albo flore*. C. B. The common Swallow-wort, with white Flowers.

2. ASCLEPIAS *nigro flore*. C. B. The common Swallow-wort, with black Flowers.

3. ASCLEPIAS *angustifolia, flore flavescente*. H. R. Par. The narrow-leav'd Swallow-wort, with yellow Flowers.

4. ASCLEPIAS *Africana aizoides*. Tourn. The African Swallow-wort, commonly called, *Fritillaria crassa*.

5. ASCLEPIAS *Africana aizoides, flore pulchre fimbriato*. Com. Rar. The African Swallow-wort, with fair hairy Flowers, commonly called, *Fritillaria crassa major*.

6. ASCLEPIAS *Africana aizoides, folio compresso digitato & cristato*. Boerb. Ind. The African Swallow-wort, with crested Leaves, commonly called, the Cockscomb *Fritillaria*.

The three first Sorts are very hardy, and will endure the Winter's Cold in the open Ground: the first Sort is

sometimes used in Medicine, and is for that Purpose preserved in the Physic-gardens: they are all three of them propagated, by parting their Roots, either in Spring or Autumn; and will grow in almost any Sort of Soil: they may be also raised from Seeds, which must be sown early in the Spring, in a Bed of common Earth; and the second Year the young Plants will produce Flowers; but these, excepting the second Sort, rarely produce any good Seeds in England.

The fourth, fifth, and sixth Sorts are Natives of the *Cape of Good Hope*, and were first brought from thence into the Dutch Gardens, and were afterwards brought into England: these Plants are propagated, by planting Cuttings in any of the Summer-months; which Cuttings should be taken from the Plants, at least a Week before they are planted, and laid in a dry Place, that the Wound may be healed, and the Moisture evaporated, otherwise they are very apt to rot: these Cuttings must be planted in small Pots filled with a sandy Soil; and, after having stood about a Week abroad in a shady Place, you may plunge the Pots into a very moderate Hot-bed, which will greatly forward their making new Roots: in about a Month's time after planting, you must begin to harden them, by exposing them to the open Air; but do not let them receive much Wet, which is a great Enemy to these Plants; and, in the Beginning of September, you must house them with the smaller Sorts of Aloes, giving them very little Water in the Winter-season.

The fifth Sort is very subject to flower every Year; but the fourth and sixth Sorts flower but seldom; though neither of them is so apt to flower, if exposed to the open Air in

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in Summer: therefore it is the better Way to let them remain in the House most Part of the Year, giving them as much free Air as possible, when the Weather will permit, and never letting them have much Water. With this Management all the Sorts will thrive much better, and oftener produce Flowers.

Although there is no great Beauty in these Flowers, when blown; yet, for their extreme Oddness, they will deserve a Place in every curious Collection of Plants.

These Flowers so much resemble, in Smell, stinking Flesh, that the Flies will cover them with their Eggs, which come so far, as just to have Life; but, not finding proper Nourishment, they soon perish.

The sixth Sort is only a Variety of the fourth, and is very apt to run back to its Original; so that, in order to preserve this Variety, all the Branches which go back to their original Smalness, must be constantly taken off; and some of the broadest must be frequently planted into other Pots; for, if young Plants are not constantly raised, the old ones will soon degenerate.

The Flowers of these two Sorts are of a dusky-yellow Colour, chequered and spotted with Black, somewhat resembling the Belly of a Frog: the fourth Sort, when preserved in a warm Stove, or if the Pots are plunged into a Bark-bed, will flower often, and sometimes produce Pods of Seed.

The Flowers of the fifth Sort are of a dark Colour, and are very hairy; these are larger than those of the other Sort, but are not so beautiful, and have a much stronger Scent of Carrion.

ASCYRUM, St. Peter's-wort.

The Character is;

This Plant differs from St. John's-

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wort, only in having a pyramidal Seed-vessel, which is divided into five Cells.

We have only two Sorts of this Plant in England; viz.

1. ASCYRUM *magno flore*. C. B. P. The large-flowering St. Peter's-wort.

2. ASCYRUM *Balearicum frutescens, maximo flore luteo, foliis minoribus, subtus verrucosis*. Salvador. Boerb. Ind. *Myrto-cistus Penæi*. Clus. H. The large-flowering St. Peter's-wort from Majorca, with small warted Leaves.

The first of these Plants was sent into England by Sir George Wheeler, to the Physic-garden at Oxford, from Constantinople, where he found it wild: this Plant produces very large Flowers, with a great Number of Stamina or Threads in the Middle, and makes a very agreeable Shew in the Wilderness-quarters, or in shady Borders, where it chiefly delights to grow: it is very hardy, and increases greatly by its creeping Roots, which will soon overspread a Border: it is best when kept in small Turfs, and not suffered to run too much, which often prevents its flowering, by having too great a Quantity of Branches: the Flowers are produced in June and July; but it seldom perfects its Seeds with us. This will grow in almost any Soil or Situation.

The second Sort was first mentioned by Dr. Lobel, who received a dried Sample of this Plant from Dr. Pennæ, who found it in Majorca, when on his Travels, and was by Dr. Lobel called *Myrto-cistus*; the Flowers, as he thought, resembling the *Cistus*, or Rock-rose, and the Leaves those of the Myrtle.

But this Plant was not known to any of the modern Botanists, until one Monsieur Salvadore, an Apothecary,

cary, who lived at *Barcelona*, went into those Islands in Search of Simples, where he found this Plant; and, sending some Specimens thereof into *England* and *Holland*, which had some ripe Seeds in their Vessels, they were sown, and grew; from whence this Plant hath been spread into many curious Gardens.

I have since received Seeds of this Plant from *Minorca*, which have produced many Plants; but as yet they seem different, their Leaves being smaller, and their Branches trail more than those of the old Plants.

This Plant is propagated, either from Seeds sown on a moderate Hot-bed in the Spring, or by planting Cuttings in the Summer-months in Pots of good Earth, which should be plunged into an old Hot-bed, and kept watered and shaded in the Heat of the Day, until they have taken Root, when you may, by degrees, expose it to the open Air; but it must be housed in Winter with Myrtles, *Amomum Plinii's*, &c. being too tender to endure the Cold of our Winters in the open Ground; but may, with a slight Shelter, be easily preserved. It requires frequent, but gentle Waterings; and loves a loose sandy Soil, with a small Mixture of very rotten Dung.

This is worthy of a Place in every curious Collection of Plants, for the Beauty of its red Shoots, small crisp'd Leaves, and its continuing to flower most Part of the Year.

ASH-TREE. *Vide Fraxinus.*

ASPARAGUS, Asparagus, Sparagus, or Sperage; corruptly called Sparrow-grass.

The Characters are;

The Flower consists of six Petals or Leaves; the three inner ones being reflex'd at the Top, after the Flower is fallen: the Pointal turns to a soft

Berry, inclosing, for the most part, three hard Seeds.

The Species are;

1. ASPARAGUS *sativus*. C. B. P. 489. Garden Asparagus.

2. ASPARAGUS *sylvestris, tenuifolius*. C. B. P. 489. Wild Asparagus, with narrow Leaves.

3. ASPARAGUS *maritimus, crassifolius*. C. B. P. 489. Sea Asparagus, with a thick Leaf.

4. ASPARAGUS *aculeatus, spinis horridus*. C. B. P. 490. Prickly Asparagus.

5. ASPARAGUS *foliis acutis*. C. B. P. Sharp-leav'd Asparagus.

6. ASPARAGUS *aculeatus alter, tribus aut quatuor spinis ad eundem exortum*. C. B. P. Another prickly Asparagus, with three or four Spines rising at the same Place.

7. ASPARAGUS *aculeatus Africanus*. H. L. Prickly African Asparagus.

8. ASPARAGUS *aculeatus maximus sarmentosus Zeylanicus*. H. L. The largest prickly bushy Asparagus of *Ceylon*.

9. ASPARAGUS *Hispanicus, aculeis crassioribus horridus*. Inst. R. H. Spanish Asparagus, armed with thick Prickles.

10. ASPARAGUS *Creticus fruticosus, crassioribus & brevioribus aculeis, magno fructu*. Tourn. Cor. Shrubby Asparagus of *Candy*, with thick and short Prickles, and large Fruit.

11. ASPARAGUS *Orientalis, foliis gallii*. Tourn. Cor. Oriental Asparagus, with Ladies-bedstraw-leaves.

12. ASPARAGUS *Africanus scandens, myrti folio angustiori*. Hort. Piss. Climbing African Asparagus, with a narrow Myrtle-leaf.

The first Sort here mentioned is that which is generally cultivated in Gardens for the Use of the Table; whose tender Shoots are eaten in the Spring,

Spring, and are much esteem'd by all delicate Palates.

The second Sort grows wild in the Fens of *Lincolnshire*, and some other Parts of *England*: but this, producing very slender Shoots, is rarely cultivated in Gardens; tho' a Friend of mine, who had cultivated this Sort for some Years, assured me, it was sweeter, and would come earlier in the Spring (without artificial Heat), than the Garden-kind.

The Garden Asparagus is propagated by sowing of the Seeds; in the procuring of which, you should be particularly careful, since the Goodness of your future Crop, in a great measure, depends thereon: you should therefore get it from some Person of Integrity, or, if you have an Opportunity, save it yourself; or in some other neighbouring Garden. You must look over the Asparagus-beds in the Beginning of the Season, and mark some of the largest and fairest Buds with a Piece of Stick: which Buds, when they have branched out, may be fasten'd to Stakes thrust into the Ground, to preserve them from breaking. These Buds will, many of them, produce great Numbers of red Berries; which should be suffer'd to remain upon the Branches until the Latter-end of *September*, when the Haulm will begin to decay: then cut off the Branches, and strip the Berries into a Tub, where they may lie in an Heap to sweat for three Weeks; by which time the outer Husks will be rotten; then fill the Tub with Water, and with your Hands break all the Husks by squeezing them between your Hands. These Husks will all swim upon the Water, but the Seeds will sink to the Bottom; so that by pouring off the Water gently, the Husks will be carried along with it; and by putting fresh Water two or

three times, and stirring your Seed about, you will make it quite clean: then spread your Seed upon a Mat, and expose it to the Sun and Air in dry Weather, until it is perfectly dry; when you may put it into a Bag, and hang it up in a dry Place till the Beginning of *February*; at which time, you must prepare a Bed of good rich Earth, whereon you must sow your Seeds (but not too thick, which will cause your Plants to be small); and having trod your Seed into the Ground, rake it over smooth.

In the following Summer, keep it diligently clear'd from Weeds, which will greatly add to the Strength of your Plants; and, toward the Latter-end of *October*, when the Haulm is quite wither'd, you may spread a little rotten Dung over the Surface of the Ground, about an Inch thick; which will preserve the young Buds from being hurt with the Frosts, &c.

The Spring following, your Plants will be fit to plant out for good (for I would never choose Plants of more than one Year's Growth, having very often experienc'd them to take much better than older, and to produce finer Roots): you must therefore prepare your Ground by trenching it well, burying therein a good Quantity of rotten Dung at the Bottom of each Trench, that it may lie at least six Inches below the Surface of the Ground: then level your whole Plot very exactly, taking out all large Stones: but this should not be done long before you intend to plant your Asparagus; in which you must be govern'd according to the Nature of your Soil, or the Season; for if your Soil is dry, and the Season forward, you may plant early in *March*; but, in a very wet Soil, it is better to wait till the End of that

Month, or the Beginning of *April*, which is about the Season that the Plants are beginning to shoot. I know many People have advis'd the planting of Asparagus at *Michaelmas*; but this I have experienc'd to be very wrong; for in two different Years I was obliged to transplant large Quantities at that Season; but I had better thrown away the Plants; for, upon Examination, in the Spring, I found most of the Roots were grown mouldy, and decaying; and, I am sure, not one in five of them succeeded; and those which did, were so weak, as not to be worth their standing.

The Season being now come, you must, with a narrow-prong'd Dug-fork, carefully fork up your Roots, shaking them out of the Earth, and separating them from each other; observing to lay their Heads even, for the more convenient planting them, which must be perform'd in this manner:

Your Plot of Ground being levell'd, you must begin at one Side thereof, ranging a Line very tight cross the Piece; by which you must throw out a Trench exactly strait, and about six Inches deep, into which you must lay your Roots, spreading them with your Fingers, and placing them upright against the Back of the Trench, that the Buds may stand forward, and be about two Inches below the Surface of the Ground, and at twelve Inches Distance from each other; then with a Rake draw the Earth into the Trench again, laying it very level, which will preserve the Roots in their right Position: then remove your Line a Foot farther back, and make another Trench in the like manner, laying therein your Plants, as before directed, and continuing the same Distance Row from Row;

only observing, between every four Rows, to leave about two Feet four Inches for an Alley to go between the Beds to cut the Asparagus, &c.

Your Plot of Ground being finish'd and levell'd, you may sow thereon a small Crop of Onions, which will not hurt your Asparagus, and tread in your Seeds, raking your Ground level.

There are some Persons who plant the Seeds of Asparagus in the Place where the Roots are to remain; which is a very good Method, if it is performed with Care. The Way is this: After the Ground has been well trenched and dunged, they lay it level, and draw a Line cross the Ground (in the same manner as is practised for planting of the young Plants); then with a Dibble make Holes at a Foot Distance, into each of which you must drop two Seeds, for fear one should miscarry; these Holes should not be more than half an Inch deep; then cover the Seeds, by striking the Earth in upon it, and go on removing the Line a Foot back for another Row; and after four Rows are finished, leave a Space for an Alley between the Beds, if it is designed to stand for the natural Season of Cutting; but if it is to be taken up for Hot-beds, there may be six Rows planted in each Bed; and the Distance in the Rows need not be more than nine Inches. This should be performed by the Middle of *February*, because the Seeds lie long in the Ground: but if Onions are intended to be sown upon the Ground, that may be performed a Fortnight or three Weeks after, provided the Ground is not stirred so deep as to disturb the Asparagus-seeds, in raking the Onion-feed into the Ground.

As the Roots of Asparagus always send forth many long Fibres, which

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run deep into the Ground, so, when the Seeds are sown where they are to remain, these Roots will not be broken or injured, as those must which are transplanted; therefore they will shoot deeper into the Ground, and make much greater Progress, and the Fibres will push out on every Side; which will cause the Crown of the Root to be in the Centre; whereas, in transplanting, the Roots are made flat against the Side of the Trench.

When your Asparagus is come up (which will be in three Weeks or a Month after planting), you must with a small Hoe cut up all the Weeds, and thin your Crop of Onions where they may have come up in Bunches: but this must be done carefully, and in dry Weather, that the Weeds may die as fast as they are cut up. This Work must be repeated about three times; which, if well done, and the Season not too wet, will keep the Ground clear from Weeds until the Onions are fit to be pull'd up, which is commonly in *August*, and is known when their Greens fall down. When you have drawn off your Onions, you must clean your Ground well from Weeds, which will keep it clean till you earth the Beds; which must be done in *October*, when the Haulm begins to decay; for if you cut off the Haulm while green, the Roots will shoot fresh again, which will greatly weaken them. This young Haulm should be cut off with a Knife, leaving the Stems two or three Inches above-ground; which will be a Guide for you to distinguish the Beds from the Alleys; then with an Hoe clear off the Weeds into the Alleys, and dig up the Alleys, burying the Weeds in the Bottom, and throw the Earth upon the Beds, so that the Beds may be about five Inches above the Level of the Alleys: then

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you may plant a Row of Coleworts in the Middle of the Alleys, but do not sow or plant any thing upon the Beds, which would greatly weaken your Roots; nor would I ever advise the planting of Beans in the Alleys (as is the Practice of many); for it greatly damages the two outside Rows of Asparagus. In this manner it must remain till Spring, when you must hoe over the Beds to destroy all young Weeds; then rake them smooth, and observe all the succeeding Summer to keep them clear from Weeds; and in *October* dig up the Alleys again, as was before directed, earthing the Beds, &c.

The second Spring after planting, you may begin to cut some of your Asparagus; though it will be much better to stay until the third; therefore now you must fork up your Beds with a flat-prong'd Fork, made on purpose, which is commonly call'd an Asparagus-fork: this must be done before the Buds shoot in the Spring, and with Care, lest you fork too deep, and bruise the Head of the Root; then rake the Beds over smooth, just before the Buds appear above-ground; which will destroy all young Weeds, and keep your Beds clean much longer than if left unrak'd, or done as soon as fork'd; and when your Buds appear about three or four Inches above-ground, then cut them; but sparingly, only taking the large Buds, and suffering the small to run up to strengthen the Roots; for the more you cut, the more the Roots will produce; but they will be smaller, and sooner decay. When you cut a Bud, you must open the Ground with your Knife (which should be very narrow and long in the Blade, and filed with Teeth like a Saw) to see whether any more young Buds are coming up close by it, which might be either

broken or bruised in cutting the other; and then with your Knife saw it off about three Inches underground. This may appear a very troublesome Affair to People unacquainted with the practical Part; but those who are employed in cutting Asparagus, will perform a great deal of this Work in a short time; but Care in doing it is absolutely necessary to be observed by all who cut Asparagus.

The manner of dressing your Asparagus-beds is every Year the same as directed for the second; *viz.* keeping them from Weeds, digging the Alleys in *October*, and forking the Beds toward the End of *March*, &c. only observe every other Year to lay a little rotten Dung, from a Melon or Cucumber-bed, all over your Beds, burying some in the Alleys also, at the time for digging them up. This will preserve the Ground in Heart to maintain your Roots in Vigour; and, by this Management, a Plot of good Asparagus may be continued for ten or twelve Years in Cutting, and will produce good Buds.

I cannot help taking notice of a common Error that has long prevailed with most People, which is, that of not dunging the Ground for Asparagus, believing that the Dung communicates a strong rank Taste to the Asparagus: but that is a great Mistake; for the sweetest Asparagus is that which grows upon the richest Ground, and poor Ground occasions that rank Taste, so often complain'd of; the Goodness of Asparagus being in the Quickness of its Growth; which is always proportionable to the Goodness of the Ground, and the Warmth of the Season: but, in order to prove this, I planted two Beds of Asparagus, upon Ground which had Dung laid a Foot thick;

and these Beds were every Year dunged extremely thick; and the Asparagus produced from these Beds was much sweeter than any I could procure.

The Quantity of Ground necessary to be planted with Asparagus, to supply a small Family, should be at least eight Rods; less than that will not do; for if you cannot cut one hundred at a time, it will scarcely be worth while; for you must be obliged to keep it, after it is cut, two or three Days, to furnish enough for one Mess: but, for a larger Family, sixteen Rods of Ground should be planted, which, if a good Crop, will furnish two or three hundred each Day in the Height of the Season.

But as there are several People who delight in having early Asparagus, which is become a very great Trade in the Kitchen-gardens near *London*, I shall give proper Directions for the obtaining it any time in Winter.

You must first be provided with a Quantity of good Roots, either of your own raising, or purchas'd from such Gardeners as plant for Sale, that have been two or three Years planted out from the Seed-bed; and having fixed upon the time you would willingly have your Asparagus fit to cut, about six Weeks before, you should prepare a Quantity of new Stable-horsedung, which should be thrown in an Heap for a Week, or more, to ferment; then it should be turned over into an Heap, where it must lie another Week, when it will be fit for Use. Then dig out a Trench in the Ground where you intend to make the Bed, the Width of the Frames that are designed to cover it, and the Length in proportion to the Quantity you intend to have; which if designed

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only to supply a small Family, three or four Lights at a time will be sufficient: then lay down your Dung into the Trench, working it very regularly, and beat it down very tight with a Fork, laying it at least three Feet in Thickness; then put your Earth thereon about six Inches thick, breaking the Clods, and laying it level; and, at one End, begin laying your Roots against a little Ridge of Earth, rais'd about four Inches high: your Roots must be laid as close as possible one to the other, in Rows, with their Buds standing upright: and between every Row lay a small Quantity of fine Mould, observing to keep the Crown of the Roots exactly level. When you have finished laying your Bed with Roots, you must lay some stiff Earth up to the Roots, on the Out-sides of the Bed, which are bare, to keep them from drying; and thrust two or three sharp-pointed Sticks, about two Feet long, down between the Roots, in the Middle of the Bed, at a Distance from each other. The Use of these Sticks is to let you know what Temper of Heat your Bed is in; which you may find by drawing up the Sticks, and feeling the Lower-part; and if, after the Bed has been made a Week, you find it doth not heat, you may lay a little Straw or Litter round the Sides, or upon the Top, which will greatly help it; and, if you find it very hot, it will be adviseable to let it remain wholly uncovered, and to thrust a large Stick into the Dung, on each Side of the Bed, in several Places, to make Holes for the great Steam of the Bed to pass off; which, in a short time, will reduce the Bed to a moderate Heat.

After your Bed has been made a Fortnight, you must cover the Crowns of the Roots with fine Earth,

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about two Inches thick; and when the Buds appear above-ground thro' that Earth, you must again lay on a fresh Parcel, about three Inches thick; so that, in the Whole, it may be five Inches above the Crowns of the Roots, which will be sufficient.

Then you must make a Band of Straw, or long Litter, about four Inches thick, which you must fasten round the Sides of the Bed, that the Upper-part may be level with the Surface of the Ground: this must be fastened with strait Sticks about two Feet long, sharpened at the Points, to run into the Bed; and upon this Band you must set your Frames, and put your Glasses thereon; but if, after your Bed hath been made three Weeks, you find the Heat decline, you must lay a good Lining of fresh hot Dung round the Sides of the Bed, which will add a fresh Heat thereto; and, in bad Weather, as also every Night, keep the Glasses covered with Mats and Straw; but, in the Day-time, let it be all taken off, especially whenever the Sun appears; which, shining thro' the Glasses, will give a good Colour to the Asparagus.

A Bed thus made, if it works kindly, will begin to produce Buds, for cutting, in about five Weeks, and will hold about three Weeks in cutting; which, if rightly planted with good Roots, will produce, in that time, about three hundred Buds in each Light: so that, if you would continue your Asparagus until the Season of the Natural being produced, you must make a fresh Bed every three Weeks, until the Beginning of *March*, from the Season of your first Bed being made: for if your last Bed is made about a Week in *March*, it will last till the Season of natural Asparagus; and the last

Beds will come a Fortnight sooner to cut than those made about *Christmas*; and the Buds will be larger, and better colour'd, as they enjoy a greater Share of the Sun.

If you intend to follow this Method of forcing early Asparagus, you must keep planting every Year a Quantity, which you shall judge necessary, unless you intend to buy it from some other Garden: the Quantity of Roots necessary to plant one Light, is commonly known by the Measure of the Ground where they grew: for in a good Crop, where few Roots are missing, one Rod of Ground will furnish enough for a Light: but those who plant Asparagus, with a Design to take it up for forcing at two Years End, plant six Rows in each Bed, at ten Inches Distance only, and lay the Plants in the Rows about eight Inches asunder; which will be a sufficient Distance, as they are designed to remain but two Years. The best Ground for planting Asparagus, to have large Roots for Hot-beds, is a low moist rich Soil: but for those that are to remain for a natural Produce, a middling Soil, neither too wet, nor too dry: but a fresh sandy Loam, when well dunged, is preferable to any other.

All the other Sorts are preserved in the Gardens of those Persons who are Lovers of Botany, for Variety. These may be all propagated by Seeds, which should be sown in Pots filled with fresh light Earth, early in the Spring: these Pots may be placed on a moderate Hot-bed, which will greatly forward the Vegetation of the Seed. When the Plants begin to appear, they should be inured to the open Air by degrees, and must be kept clear from Weeds; as also, in dry Weather, must be frequently refreshed with

Water. In Autumn these must be either removed into the Greenhouse, or placed under an Hot-bed-frame, where they may be protected from Frost; for as they are Natives of warm Countries, they will not endure the Cold of our Climate in Winter: the Spring following, just before the Plants begin to shoot, the Roots should be turned out of the Pots, and the Earth gently separated from them; then they should be parted; and as many of the best Roots as are intended to be preserved, should be planted each into a separate Pot filled with fresh light Earth, and then placed on a very moderate Hot-bed, covered only with Mats, just to promote their new Roots; and when the Weather is mild, they may be exposed to the open Air: these Plants may be placed abroad during the Summer-season; but in Winter they must be protected from hard Frost, which will otherwise destroy them. The only Culture which these Sorts require, is, to shift them every Spring into fresh Earth, just before they begin to shoot; and as their Roots increase in Magnitude, they should be allowed larger Pots. In Summer they must be frequently watered; but in Winter, when their Green is decayed, they should not have too much Water, lest it rot them.

The last Sort never produces ripe Fruit in this Country; but it increases plentifully by Off-sets, which should be taken off in the Spring, before they shoot, otherwise they do not succeed so well. The Roots of this Sort are very subject to rot, where they have too much Wet in Winter.

ASPEN-TREE. *Vide* Populus.

ASPERUGO, Small wild Bugloss.

The Characters are;

It hath a Flower consisting of one Leaf, which is shaped like a Funnel, and cut into several Segments; out of whose Empalement rises the Pointal, fixed in the Bottom of the Flower, surrounded by four Embryoes, which afterward become so many oblong Seeds, which ripen in the Empalement, that is much enlarged, whose Parts are then so closely contracted, that they adhere and cling together.

We have but one Sort of this Plant; which is,

ASPERUGO vulgaris. Inst. R. H. Small Wild Bugloss, Great Goose-grass, or German Madwort.

This is an annual Plant, which is found wild in some Parts of England, as near Newmarket, at Boxley in Suffex, and in Holy Island. It is preserved in the Botanic Gardens for Variety: it may be easily propagated by Seeds, which should be sown in Autumn; for if the Seeds are kept out of the Ground till Spring, they do not succeed so well: when the Plants come up, they require no other Culture but to keep them clear from Weeds, and in May they will flower: in June their Seeds will be perfected, which, if suffered to scatter, will grow again in Autumn; so that when this Plant is once brought into a Garden, it will maintain itself, provided it be allowed a Place.

ASPERULA, Woodroof.

This Plant grows wild in shady Woods in many Parts of England, and flowers in April and May, and is sometimes used in Medicine.

ASPHODELUS, Kingspear.

The Characters are;

The Stalk is round, smooth, strong, and branchy: the Leaves are like those of a Leek, but stronger and narrower: the Flowers are divided commonly as far as the Basis, naked,

stellated, embracing the Ovary like a Calyx: the Apex of the Ovary puts forth six Stamina, and a long Tube from the Centre, which becomes a roundish Fruit, carnos, triangular, and divided into three Partitions, in which are inclosed triangular Seeds.

The Species are;

1. *ASPHODELUS luteus* & flore & radice. C. B. The yellow Asphodel, or Kingspear.

2. *ASPHODELUS albus ramosus*. C. B. The great white branching Asphodel, or Kingspear.

3. *ASPHODELUS albus*, non ramosus. C. B. The white unbranched Asphodel, or Kingspear.

4. *ASPHODELUS albus ramosus minor*, seu ramosus alter. H. R. Par. Small white branched Asphodel, or Kingspear.

5. *ASPHODELUS purpurascens*, foliis maculatis. C. B. P. Purplish Asphodel, with spotted Leaves.

6. *ASPHODELUS foliis compressis asperis*, caule patulo. Inst. R. H. Asphodel with rough compressed Leaves, and a spreading Stalk.

7. *ASPHODELUS Africanus angustifolius luteus minor*. Inst. R. H. Small yellow African Asphodel, with narrow Leaves.

8. *ASPHODELUS spiralis luteus Italicus*, flore magno. H. R. Par. Yellow spiral Italian Asphodel, with a large Flower.

9. *ASPHODELUS albus minimus*. C. B. P. Smallest white Asphodel.

10. *ASPHODELUS foliis fistulosis*. C. B. P. Asphodel with fistulous Leaves.

11. *ASPHODELUS Creticus luteus serotinus patulus*, folio aspero. Tourn. Cor. Late yellow spreading Asphodel of Candy, with a rough Leaf.

These Plants are all of them extreme hardy, and will prosper in almost any Soil, that is not too stiff or wet, which is subject to rot the

Roots in Winter. The Way to increase them is, by parting their Roots in *August*, before they shoot up their fresh green Leaves. These Plants growing pretty tall, are proper for large Borders, or to mix with Flowers of large Growth, in small Quarters or Bosquets in Wilderness-work; but must not be planted in Borders of small Flowers, where, by their large spreading Roots, they would destroy their weaker neighbouring Plants.

The yellow Sort multiplies very fast by Roots, and will soon overspread a large Border, if suffered to remain unremoved, or the Side-roots are not taken off; but the other Sorts are not so productive of Shoots from their Sides, and are much better kept within Bounds.

All the Sorts of *Asphodel* are very pretty Ornaments for a Flower-garden, and, requiring very little Trouble to cultivate them, are rendered more acceptable. They may be all propagated by Seeds, which should be sown soon after they are ripe, on a warm Border of fresh light Earth: in the Spring the Plants will appear, when you should carefully clear them from Weeds, and in dry Weather they must be frequently watered: if this be duly observed, the Plants will have acquired Strength enough to be transplanted by the *Michaelmas* following; at which time you must prepare a Bed of fresh Earth in the Flower-nursery, into which you should plant the Roots, at about six Inches Distance every Way; observing to plant them so low, as that the Top of the Roots may be three or four Inches under the Surface of the Bed: in this Bed they may remain one Year, during which time they should be frequently refreshed with Water in dry Weather, and must be kept very clear from Weeds,

In this time the Roots having acquired Strength enough to produce Flowers the following Year, they should at *Michaelmas*, when their Leaves are decayed, be carefully taken up, and transplanted into the Flower-garden, observing to place them in the Middle of the Borders, among other hardy Kinds of Flowers, where being properly intermixed, they will make an agreeable Variety, and continue a long time in Flower.

These Plants may also be propagated by parting of their Roots; but this must not be too often repeated, lest it weaken the Roots, and prevent their flowering so strong as they otherwise would do. Once in three Years will be often enough to transplant the Roots, at which time you may separate those which are grown large, so as to make two or three Roots of each: but do not part them too small; for that will so weaken them as to prevent their flowering the following Summer. The best time to transplant these Roots is at *Michaelmas*, just when their Leaves begin to decay.

ASPLENIUM, or Ceterach, Spleenwort, or Miltwaste.

The Characters are;

The Leaves are like those of the Polypody, but less, and pretty round, notched toward the Side; downy, having a squamous Dust, in which, by the Help of a Microscope, membranous Capsulæ or Seed-pods, lying close to one another, are perceived, every one furnished with a little round Rope, which by its Construction opening the Fruit into two Parts, pours forth certain very small Seeds: the Root is fibrous. This Plant thrives in stony Places, as in Walls, &c.

This Plant is of the Fern-kind, and grows upon old moist shady Walls in divers Parts of England; but

but is never cultivated in Gardens.

ASTER, Starwort.

The Characters are ;

It hath a fibrose Root : the Leaves are, for the most part, intire, and are placed alternately on the Branches : the Stalks are branched : the Flowers are radiated, specious, and have a scaly Cup : the Seeds are included in a downy Substance.

The Species are ;

1. ASTER *Atticus cæruleus vulgaris*. C. B. The Italian blue Starwort.

2. ASTER *Pyrenaicus præcox, flore cæruleo majore*. Dod. The early Pyrenean Starwort, with large blue Flowers.

3. ASTER *Novæ Angliæ altissimus hirsutus, floribus maximis purpureo-violaceis*. Par. Bat. Prod. The tall rough New-England Starwort, with large purple Flowers.

4. ASTER *Novæ Angliæ latifolius paniculatus, floribus saturate violaceis*. H. L. The broad-leav'd panicked New-England Starwort, with deep violet-colour'd Flowers.

5. ASTER *Novæ Angliæ umbellatus, floribus dilute violaceis*. H. L. New England Starwort, with pale violet-colour'd Flowers growing in an Umbel.

6. ASTER *Virginianus serotinus, parvo albente flore*. Park. The late-flowering Virginian Starwort, with small whitish Flowers.

7. ASTER *cæruleus serotinus frutescens Tradescanti*. Raii Hist. Tradescant's shrubby late-flowering blue Starwort.

8. ASTER *tripolii flore*. C. B. Narrow-leav'd Starwort, with Flowers like Tripolium.

9. ASTER *Virginianus pyramidalis, hyssopi foliis asperis, calycis squamulis foliaceis*. Rand. The Virginian Starwort, with Leaves like

Hyssop, and large blue Flowers with leafy Cups.

10. ASTER *Novæ Angliæ, linariæ folio, chamæmeli flore*. Par. Bat. New-England Starwort, with Toad-flax-leaves, and Flowers like those of Chamomil.

11. ASTER *Americanus, belvidereæ foliis, floribus ex cæruleo albicantibus, spicis prælongis* Pluk. Phyt. Tab. 78. f. 5. American Starwort, with Leaves like the Belvidere, and long Spikes of bluish-white Flowers.

12. ASTER *annuus, caule villosa purpurascente, eryngii folio, flore maximo purpureo pulcherrimo, semine violaceo, Kiang-sita Sinensis*. Jessieu. Annual Starwort from China, with purple hairy Stalks, Eryngo-leaves, a beautiful large purple Flower, and a violet-colour'd Seed.

13. ASTER *annuus, caule villosa virescente, eryngii folio, flore maximo albo*. Annual Starwort from China, with hairy greenish Stalks, Eryngo-leaves, and a large white Flower.

14. ASTER *annuus, caule villosa purpurascente, eryngii folio, flore maximo cæruleo*. Blue China Starwort.

15. ASTER *serotinus ramosus alter, flore purpurascente*. H. R. Par. Another late-branched Starwort, with a purplish Flower.

16. ASTER *latifolius, tripolii flore*. H. R. Par. Broad-leav'd Starwort, with a Flower of Tripolium.

17. ASTER *tripolii flore, angustissimo & tenuissimo folio*. Flor. Bat. Starwort with a Tripolium-flower, and very narrow slender Leaves.

18. ASTER *Canadensis subhirsutus, salicis folio, serotinus, flore cæruleo*. Inst. R. H. Late hairy Canada Starwort, with Willow-leaves, and a blue Flower.

19. ASTER *Atticus cæruleus minor*. Inst. R. H. Small blue Attic Starwort.

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20. *ASTER hirsutus Austriacus*, *cæruleo magno flore, foliis subrotundis*. C. B. P. Hairy Austrian Starwort, with a large blue Flower, and roundish Leaves.

21. *ASTER montanus cæruleus*, *magno flore, foliis oblongis*. C. B. P. Blue mountain Starwort, with a large Flower, and oblong Leaves.

22. *ASTER Alpinus, flore purpurascente*. Raii Hist. Alpine Starwort, with a purplish Flower.

23. *ASTER Atticus Alpinus alter*. C. B. P. Another Attic Starwort of the Alps.

24. *ASTER Atticus cæruleus major*. Inst. R. H. Greater blue Attic Starwort.

25. *ASTER maritimus palustris cæruleus, salicis folio*. Inst. R. H. Marsh or Sea Starwort, with Willow-leaves, commonly called Tri-podium.

26. *ASTER Canadensis, foliis imis amplioribus, cordatis, et serratis*. D. Sarrazin. Canada Starwort, whose Under-leaves are broad, heart-shaped, and serrated.

27. *ASTER virgæ aureæ latifoliæ folio subhirsuto, floribus fere umbellatis*. D. Sarrazin. Hairy Starwort, with broad Golden-rod-leaves, and Flowers growing almost in an Umbel.

28. *ASTER cæruleus ex Provincia Mariana, quasi perfoliatus, floribus sparsis spicatis*. Pluk. Mantif. Blue Starwort from Maryland, whose Leaves almost surround the Stalk, and small Flowers growing in Spikes.

29. *ASTER Americanus, foliis pin-natis et serratis, floribus aurantiis*. Houst. American Starwort, with winged serrated Leaves, and orange-colour'd Flowers.

30. *ASTER Americanus palustris, salicis folio serrato, floribus exiguis albidis*. Houst. Marsh American Star-

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wort, with a serrated Willow-leaf, and small white Flowers.

31. *ASTER Americanus procumbens, bellidis minoris facie*. Houst. Trailing American Starwort, with the Face of the lesser Daisy.

32. *ASTER Africanus frutescens, lavendulæ folio, flore purpureo*. Hort. Amst. Shrubby African Starwort, with a Lavender-leaf, and a purple Flower.

33. *ASTER Africanus ramosus, hyssopi foliis, floribus cæruleis*. Oldenl. Inst. R. H. African branched Starwort, with Hyssop-leaves, and blue Flowers.

34. *ASTER Americanus frutescens, satureiæ foliis scabris, floribus amplis saturate violaceis*. Pluk. Alm. Shrubby American Starwort, with rough Savory-leaves, and large violet-colour'd Flowers.

The first, second, eighth, and ninth Sorts are much preferable to the rest, for small Gardens, being not so apt to spread at the Root as are the others, and grow much lower, are less subject to shed their Seeds, and, with a small Support, may be kept upright in a regular Shape. The second Sort is the first in Flower; it grows about two Feet high, and produces large purple Flowers, but seldom in such large Tufts as the first, nor are the Flowers so beautiful; however, as it comes to flower much sooner, it deserves a Place in every good Garden. This Sort is succeeded in Flower by the eighth, which is of shorter Growth, seldom rising above a Foot in Height: the Flowers are much smaller, but are produced in very large Clusters, so as to make a very agreeable Appearance.

The first Sort succeeds these, and is one of the most beautiful Kinds; it seldom grows more than two Feet high, and is easily kept in Compass; the

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the Flowers are large, produced in great Tufts, and are of a fine blue Colour, with a yellow Thrum in the Middle, and is a great Ornament to Gardens in its Season of Flowering. This is the *Amellus* of *Virgil*.

The third, fourth, and fifth Sorts grow to the Height of four or five Feet, and produce large Quantities of Flowers, and are very proper for large Gardens, where they may have room; but in small Places they are very apt to over-run whatever is planted near them, and the Seeds are subject to scatter, and fill the Garden with young Plants, if the Stalks are not cut down, and carried away, soon after the Flowers are past; for which Reasons few People care to keep them: but yet in large Wildernesses they are very good to fill up Vacancies, and the Flowers are very proper to adorn Halls and Chimneys; and as they come at a Season when few better Flowers appear, are the more valuable: but, in order to keep them within Bounds, you should at least once a Year dig round them, and cut off all the spreading Roots, which would otherwise extend themselves very far, and become unfightly; and with these Roots you may make fresh Plantations. These come at a middle Season to flower.

The sixth, seventh, and ninth Sorts are very late Flowerers, seldom appearing till *October*, and in a good Season hold till the Middle of *November*; for which Reason they are much esteemed.

The seventh Sort grows to a great Height, and is very proper to intermix with other large Kinds; but it is not so subject to creep at the Root as they are, and the Flowers are large, growing in handsome Tufts.

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The sixth Sort flowers very late; but they are very small, and grow sparsedly on the Branches; for which Reason it is not so valuable as the other. But the ninth Sort is one of the most beautiful; the Flowers are large, and of a deep-blue Colour; the whole Plant grows erect, and never creeps at the Root: it begins to flower towards the End of *October*, and continues till the Middle of *December*, and makes a very good Shew during that Season, if the Weather is mild.

The tenth Sort is a very handsome Plant, and is not so apt to spread as most of the other Kinds. This produces a great Quantity of white Flowers in *October*, and is worthy of a Place in every good Garden.

The eleventh Sort is apt to spread much by its creeping Roots; so should not be placed amongst other Plants, lest it overbear them. This continues flowering most Part of *November*.

The fifteenth, sixteenth, seventeenth, eighteenth, nineteenth, twentieth, twenty-first, twenty-second, twenty-third, twenty-fourth, twenty-fifth, twenty-sixth, twenty-seventh, and twenty-eighth Sorts are all very hardy Plants, and may be treated in the same manner as the former Sorts.

The sixteenth, seventeenth, nineteenth, twenty-third, and twenty-fourth Sorts do not creep by the Root, so may have a Place in the Borders of Flower-gardens; but the other are only fit for Wilderness-quarters, or other large open Places, where they may have room to spread without Injury to the other Plants; for, as these are great Growers, they will not only overbear the neighbouring Plants, but also exhaust

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haust the Nourishment from them, and thereby starve them.

All the Starworts are propagated by parting their Roots early in the Spring or Autumn, and will grow in almost any Soil or Situation: the larger Sorts increase so fast, that, in a short time, they will run over a large Spot of Ground, if not prevented: these grow best in the Shade; the lower Kinds seldom creep at the Root, but must be taken up and planted every other Year, which will cause their Flowers to be fairer. The ninth Sort may be increased by planting Cuttings of it in any of the Spring-months, which will flower the first Year: the Roots of this increasing but slowly, this is the only Method to get a Stock of this Plant. This Plant, if set in Pots, and sheltered in bad Weather, will continue flowering most Part of the Winter; but dies to the Surface in the Spring, as do all the Sorts of Starworts.

The Seeds of the twelfth Sort were sent from *China* to *Paris*, and sown in the Royal Garden there; whence this Plant hath been distributed to several curious Gardens in *Europe*, and is become one of the greatest Ornaments of the Flower-garden in Autumn. It begins to produce its Flowers the Beginning of *August*, and continues to produce new Flowers until the Frost prevents it.

This Plant is propagated from Seed, which should be sown on a warm Border soon after it is ripe; for, if it be kept till Spring, it seldom grows so well. The Plants will begin to appear early in the Spring, when they should be cleared from Weeds, and, in very dry Weather, must be refreshed with Water, which will forward their Growth; for, during the first six Weeks, or two Months, after they come up, they make but small Progress. The Be-

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ginning of *May* these Plants will be fit to transplant, when they should be carefully drawn up, and planted in a Bed of rich Earth, six Inches asunder, observing to water them frequently in dry Weather, and to keep them constantly clear from Weeds. When these Plants are about four or five Inches high, they should be taken up, with a Ball of Earth to their Roots, and transplanted, either into Pots, or into the Borders of the Flower-garden, where they are to remain, observing to water and shade them until they have taken Root; after which time those in the Borders will require no farther Care, but to keep them clear from Weeds; but those in the Pots must be frequently refreshed with Water, otherwise they will not grow large, nor produce near so many Flowers. In *August* these Plants will produce their beautiful Flowers, which will continue till the End of *September*; at which time the Seeds will ripen, when, as was before directed, some of it should be sown on a warm Border; but it will be proper to save some of the Seed till Spring, lest, by a violent hard Winter, those sown in Autumn should be destroyed.

The thirteenth and fourteenth Sorts are Varieties of the twelfth, which accidentally rose from the same Seeds. These only differ from the former in the Colour of their Stalks and Flowers; which, in one, are white, and the other a lively blue Colour: these make a fine Variety, when they are intermixed in the Borders of the Flower-garden.

The twenty ninth, thirtieth, and thirty-first Sorts were discovered by the late Dr. *William Houstoun*, near *Vera Cruz*, in the *Spanish West-Indies*. The twenty-ninth and thirty-first grow plentifully on the sandy Ground about *Old Vera-Cruz*; and the

the thirtieth in watery Places near the Sea. These are all of them annual Plants, which may be propagated by sowing their Seeds in Pots filled with fresh light Earth early in the Spring; and then plunge the Pots into an Hot-bed of Tanners Bark, observing to water them frequently, as the Earth in the Pots shall require it. When the Plants are come up, they must be frequently refreshed with Water, and the Glasses of the Hot-bed should be raised with Stones in the Heat of the Day, to admit Air to the Plants, otherwise they will draw up very weak. When the Plants are about an Inch high, they should be carefully transplanted each into a separate Pot filled with fresh light Earth, and then plunged into the Hot-bed again, observing to shade the Glasses until they have taken new Root. When the Plants have filled these Pots with their Roots, you must shift them carefully into Pots of a larger Size; and then plunge them into the Bark-bed in the Stove, where they will flower in *August*, and their Seeds will be perfected in *September*; after which the Plants decay.

The thirty-second, thirty-third, and thirty-fourth Sorts are abiding Plants, which grow to the Height of six or eight Feet, and become shrubby. These Plants may be propagated by Cuttings, which should be taken off in *June*, and planted into Pots filled with fresh light Earth, and plunged into a moderate Hot-bed, observing to water and shade them until they have taken Root; after which time they should be inured to bear the open Air by degrees. Toward the End of *July* they should be taken out of the Hot-bed, and placed among other Exotic Plants, in a Situation where they may be defended from cold Winds. In this

Place they may remain until the Beginning of *October*, when they should be removed into the Green-house, observing to place them where they may enjoy a large Share of Air in mild Weather; otherwise their Shoots will become weak, and they will not produce their Flowers strong, where their Shoots are too much drawn. These Plants must be removed out of the Green-house in the Spring, at the time when Orange-trees are taken out, and should be housed again about the same time as those are. In Winter they should have frequent Waterings; but these must not be given them in large Quantities at that Season. In Summer they must be plentifully watered in dry Weather, which will cause them to flower very strong.

These produce their Flowers in Autumn, and continue in Beauty a long time; during which Season, they afford an agreeable Prospect, and greatly add to the Variety, among other Exotic Plants.

ASTEROIDES, Bastard Starwort.

The Characters are;

It hath a compound radiated Flower, whose Disk is composed of many Florets, which are Hermaphrodite, and of Semiflorets, which are Female, and rest upon the Embryoes, which are all included in a scaly Embalement: these Embryoes after-ward become Seed, for the most part, oblong.

The Species are;

1. ASTEROIDES *Alpina*, *salicis folio*. Tourn. Cor. Bastard Starwort of the *Alps*, with a Willow-leaf.

2. ASTEROIDES *orientalis*, *petafiditis folio*, *flore maximo*. Tourn. Cor. Oriental bastard Starwort, with a Butter-bur-leaf, and a large Flower.

3. ASTEROIDES *Americana minor annua*. Vaill. Lesser American bastard

bastard annual Starwort. These are ranged in the Genus of Ox-eye, by Dr. *Linnaeus*.

The first of these Plants is pretty common in the *English* Gardens. This is a very hardy Plant, which is propagated by parting its Roots; for it seldom produces good Seed in this Country: the best time to part the Roots is in *October*, about which time their Leaves decay: for, if it be deferred till Spring, and the following Season should prove dry, they will not flower so strong as those which were planted in Autumn, tho' they should be constantly supplied with Water. This Plant will thrive in almost any Soil or Situation, and continues to flower from *June* to *September*, which renders it worthy of a Place in every good Garden. This Plant is proper for large Borders, or to place under Groves of Trees, where, if it be not too much shaded by the Trees, it will thrive very well, and add to the Variety. The Flowers are of a bright-yellow Colour, and their Stems are about two Feet high, a great Number of which are produced from each Root, if they have sufficient Strength.

The second Sort was discovered by Dr. *Tournefort*, in the *Levant*, and is at present rarely to be found in *England*. This may be propagated as the former Sort, but must have a warmer Situation; nor will it grow under the Drip of Trees. These Plants should not be transplanted oftener than every other Year; for, when they are often parted and transplanted, they do not flower so well, nor make so large an Increase.

The third Sort is an annual Plant, which must be raised on an Hot-bed, and planted into Pots filled with light

rich Earth, and brought forward on another Hot-bed, observing not to draw them up too weak; and, in *June*, they should be inured to bear the open Air by degrees, into which they should be removed toward the End of the Month, and placed in a warm Situation, where they will flower in *July*, and their Seed will be perfected in *September*; soon after which time the Plants will decay.

ASTERISCUS (of Aster, or Starwort, which it is very like, except that the Seeds are not pappous, but channelled), Yellow Starwort.

This Plant having no *English* Name, I have called it Yellow Starwort, altho' it is very different in its Characters from that Plant; the Seeds of this being plain, and, for the most part, bordered round the Edges, having no Down adhering to them; and the Flowers being surrounded with a foliaceous Calyx.

The Species are;

1. ASTERISCUS annuus, foliis ad florem rigidis. *Tourn.* The annual yellow Starwort, with stiff Leaves and Flowers.

2. ASTERISCUS annuus Lusitanicus odoratus. *Boerb.* The Portuguese sweet-smelling annual yellow Starwort.

3. ASTERISCUS maritimus perennis patulus. *Tourn.* The maritime perennial dwarf yellow Starwort.

4. ASTERISCUS annuus, foliis ad florem rigidis, flore sulphurei coloris. *Inst. R. H.* Annual yellow Starwort, with brimstone-coloured Flowers.

5. ASTERISCUS annuus, foliis ad florem rigidis, flore minori, elatior. *Inst. R. H.* Taller annual yellow Starwort, with a smaller Flower.

6. ASTERISCUS maritimus annuus patulus. *Inst. R. H.* Dwarf maritime annual yellow Starwort.

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7 *ASTERISCUS aquaticus annuus patulus*. *Inst. R. H.* Dwarf marsh annual yellow Starwort.

The first, second, fourth, fifth, sixth, and seventh Sorts being annual Plants, their Seeds must be sown every Year, to continue their Kinds; for, altho' by their Seeds falling, and growing, they will generally succeed well, yet, by turning of the Ground, or cleaning it from Weeds, there is Danger of destroying the Plants: therefore the surest Method to preserve the several Sorts is, to sow the Seeds in Autumn, where the Plants are designed to remain: they should have a sheltered Situation, otherwise, if the Winter should prove severe, they may be destroyed: it will also be proper to preserve some Seeds of each Sort till Spring, lest the autumnal Plants should be destroyed; for those which are sown in the Spring will flower by the End of July; and, if the Autumn proves favourable, will perfect their Seeds by September: but, as the Plants which come up in Autumn flower early in Summer, there is a much greater Certainty of having good Seed from them than the Spring Plants; therefore it is, that I advise to sow of all the Sorts early in Autumn.

When the Plants are come up, they will require no other Care but to keep them clear from Weeds; and, when the Plants are too close, they should be thinned, so as to leave them six or eight Inches asunder, and the Ground kept clean from Weeds, which, if suffered to grow, will soon get the better of the Plants, and prevent their Growth. The autumnal Plants will flower in June, and their Seeds will ripen in August; and these Plants will grow much larger, and produce a greater Quantity of Flowers, than those

which are sown in the Spring. The first, fourth, and fifth Sorts generally grow about two Feet high; but the second, sixth, and seventh Sorts, are of humbler Growth, seldom rising above six Inches high, and spread out into many Branches: these Plants will thrive on almost any Soil; but where the Land is too cold, stiff, and moist, they will not do so well, as on a light sandy Soil, where they are also much securer from being destroyed by Frost or Wet in Winter. When any Plants of these Kinds come up from Seeds which may be scattered, which they frequently do, if they are kept clean from Weeds, they will do as well as those which are sown; wherefore they should not be destroyed; but, if they do not stand in a proper Place, they may be taken up, with Earth to their Roots, and transplanted.

The third Sort is propagated either from Seeds, or by planting Cuttings in any of the Summer-months: but, as the Seeds seldom ripen in this Country, it can only be propagated by Cuttings, which, if planted in Pots filled with light Earth, and shaded and watered, will take Root in five or six Weeks time, and may then be removed, and placed with other hardy Exotic Plants, in the open Air, where they will make a Diversity: it is an abiding Plant, and continues flowering the greatest Part of the Year, for which it is valued: this is tender, requiring a moderate Shelter in very hard Weather.

ASTRAGALUS, Wild Liquorice, or Liquorice-vetch.

The Characters are;

It hath a papilionaceous Flower, consisting of the Standard, the Keel, and the Wings: out of the Flower-cup arises the Pointal, covered with

a Sheath, which afterward becomes a bicapsular Pod, which is filled with kidney-shaped Seeds: to which Notes may be added, That the Leaves grow By Pairs along a middle Rib, with an odd one at the End.

The Species are;

1. *ASTRAGALUS luteus perennis procumbens vulgaris, sive sylvestris.* Mor. Hist. Wild Liquorice, or Liquorice-vetch.

2. *ASTRAGALUS luteus annuus Monspeliacus procumbens.* Mor. Hist. Yellow annual trailing Milk-vetch of Montpellier.

3. *ASTRAGALUS luteus perennis, filiqua gemella rotunda vesicam referente.* Mor. Yellow perennial Milk-vetch, with a round Pod, resembling a Bladder.

4. *ASTRAGALUS annuus maritimus procumbens latifolius, floribus pediculo insidentibus.* Tourn. Annual maritime trailing Milk vetch, with broad Leaves, and the Flowers sitting on Pedicles.

5. *ASTRAGALUS annuus angustifolius, flosculis pediculis oblongis insidentibus.* Tourn. Narrow-leav'd annual Milk-vetch, whose Flowers stand on long Footstalks.

6. *ASTRAGALUS annuus angustifolius, flosculis subcæruleis cauliculis adhærentibus.* Tourn. Narrow-leav'd annual Milk-vetch, with bluish Flowers adhering to the Stalks.

7. *ASTRAGALUS annuus procumbens, floribus glomeratis purpureis.* Boerb. Ind. Annual trailing Milk-vetch, with purple Flowers growing in Clusters.

8. *ASTRAGALUS Alpinus procerior alopecuroides.* Tourn. Taller Fox tail Milk-vetch of the Alps.

9. *ASTRAGALUS pumilis, filiqua epiglottidis forma.* Tourn. Dwarf Milk vetch, with a Pod shaped like the Epiglottis.

10. *ASTRAGALUS montanus purpureus Anglicus.* Tourn. English purple Milk-vetch of the Mountains.

11. *ASTRAGALUS Alpinus, tragacanthæ folio, vesicarius.* Tourn. Bladder Milk-vetch of the Alps, with a Goats-thorn-leaf.

12. *ASTRAGALUS Alpinus, tragacanthæ folio, ramosus, flore cæruleo glomerato.* Tourn. Branched Milk-vetch of the Alps, with a Goats-thorn-leaf, and blue glomerated Flowers.

13. *ASTRAGALUS Orientalis altissimus, galeæ foliis amplioribus, flore parvo flavescente.* T. Cor. Tallest Eastern Milk-vetch, with ample Goats-rue-leaves, and a small yellowish Flower.

14. *ASTRAGALUS Orientalis altissimus, fraxini folio, flore è viridi flavescente.* T. Cor. Tallest Eastern Milk-vetch, with an Ash-leaf, and a greenish-yellow Flower.

15. *ASTRAGALUS Orientalis maximus incanus erectus, caule ab imo ad summum florido.* T. Cor. Greatest hoary upright Milk-vetch, with a Stalk flowering from the Bottom to the Top.

16. *ASTRAGALUS Canadensis, flore viridi flavescente.* Acad. Reg. Scien. Milk-vetch of Canada, with a greenish-yellow Flower.

17. *ASTRAGALUS Orientalis villosissimus, capitulis rotundioribus, floribus purpureis.* Cor. Inst. R. H. The most hairy Oriental Milk-vetch, with round Heads, and purple Flowers.

18. *ASTRAGALUS villosus spicatus erectus, floribus flavescens.* Amman. Ruth. Upright hairy Milk-vetch, with yellowish spiked Flowers.

19. *ASTRAGALUS non ramosus, villosus & incanus, spicatus floribus purpureo-violaceis.* Amman. Ruth. Unbranched hoary Milk-vetch, with purple-

purple-violet Flowers growing in Spikes.

20. *ASTRAGALUS caulescens erectus, leguminibus erectiusculis nudis humidis tereti-depressis, mucrone reflexo.* Hort. Upsal. Upright Milk-vetch, with swelling naked Pods, standing erect, and reflexed at the Point.

The first Sort is very common in divers Parts of *England*, and is seldom preserved in Gardens. This dies to the Root every Winter, and rises again the following Spring. It flowers in *June*, and the Seeds are ripe in *August*. This may be propagated by sowing of the Seeds in the Spring, upon almost any Soil, or in any Situation, and require no farther Care but to keep it clear from Weeds.

The tenth Sort grows wild in several Parts of *England*; but is not so common as the former. This may be propagated in the same manner as the former.

The second, fourth, fifth, sixth, and seventh Sorts are annual Plants: these may be propagated by sowing of their Seeds in *March*, upon a Bed of light fresh Earth, in an open Situation; and when the Plants are come up, they should be thinned, leaving them about a Foot asunder; after this, there will be no other Trouble, but to keep them clear from Weeds. These will produce their Flowers in Summer, and in Autumn their Seeds will be perfected. There is but little Beauty in these Plants; so they are not often preserved, unless in Botanic Gardens, for the sake of Variety.

The other Sorts are all abiding Plants, but must be propagated by sowing of their Seeds toward the latter-end of *March*, on a Bed of fresh light Earth; observing not to bury the Seeds too deep, lest they rot;

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and, when the Plants are come up, they should be thinned, leaving them about six Inches asunder; and, during the Summer following, you should constantly keep them clear from Weeds. In *October* you may transplant these Plants into the Borders where they are to remain; in doing which you should carefully dig to the Bottom of their Roots; for most of them send forth long Tap-roots, which go deep into the Earth; and, if cut or broken, rarely overcome it. These Plants many of them grow very tall, and should be allowed a great Share of room. The fifteenth Sort will grow to the Height of five or six Feet, and is often garnished with Flowers from the Root upward to the Top of the Stalk, and makes a good Appearance: but the eighth is by far the most beautiful of all the Kinds; this produces large Tufts of Flowers, of a yellow Colour, upon the Top of the Stalks: the Roots of this Sort do not continue above two or three Years; but, as the Seeds are ripened very well most Years, there may be always a Supply of young Plants raised. The other Plants are perennial, of no great Beauty; so are seldom cultivated in Gardens.

ASTRANTIA, Masterwort.

The Characters are;

It hath a Rose and umbellated Flower, consisting of several Leaves: the Apices are, for the most part, reflexed, and are placed orbicularly on the Flower-cup: this afterward becomes a Fruit, composed of two Seeds, each of which is covered with a furrowed Husk: to these must be added, The Flowers are collected into an Head, surrounded with a Circle of Leaves.

The Species are;

1. *ASTRANTIA major, corona floris purpurascens.* Tourn. Black Masterwort, with purplish Flowers.

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2. *ASTRANTIA*

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2. *ASTRANTIA major, corona floris candida.* Tourn. Great Master-wort, with white Flowers.

These Plants are both very hardy; they may be propagated either by sowing of their Seeds, or parting their Roots. If they are propagated from Seeds, they should be sown early in the Spring, or in Autumn, soon after their Seeds are ripe, on a shady Border; and, when the Plants are come up, they should be carefully weeded; and, where they are too close, some of the Plants should be drawn out, to allow room for the others to grow, until *Michaelmas*, when they should be transplanted where they are to remain; which should always be in a moist Soil, and a shady Situation. The Distance these Plants should be placed, is two Feet; for their Roots will spread to a considerable Width, if they are permitted to remain some Years in the same Place. They require no other Culture, but to keep them clear from Weeds, and every third or fourth Year to be taken up at *Michaelmas*, and their Roots parted, and planted again. These Plants are seldom preserved, but in Botanic Gardens, there being no great Beauty in their Flowers, nor are they used in Medicine at present; though, by some Persons, the first Sort has been called black Hellebore, and, I believe, has been used as such.

ATRACTYLIS, Distaff-thistle.
Vide Cnicus.

ATRIPLEX, Orrach or Arach.

The Characters are;

It hath no Leaves to the Flower; but consists of many Stamina, which arise from a five-leav'd Empalement: the Pointal afterward becomes the Seed, which is flat and orbicular, and is inclosed in the Empalement, which becomes a foliaceous Capsule,

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in which are included two Sorts of Seeds.

The Species are;

1. *ATRIPLEX hortensis alba, five pallide wirens.* C. B. P. Garden Orrach, of a pale-green Colour.

2. *ATRIPLEX hortensis nigricans.* C. B. P. Dark-green Garden Orrach.

3. *ATRIPLEX hortensis rubra.* C. B. P. Red Garden Orrach.

4. *ATRIPLEX latifolia, five Halimus fruticosus.* Mor. Hist. Shrubby broad-leav'd Orrach, commonly called, Sea-purslane-tree.

5. *ATRIPLEX maritima fruticosa, Halimus & Portulaca marina dicta, angustifolia.* Raii Syn. Shrubby Sea-orrach, commonly called, Sea-purslane, with a narrow Leaf.

6. *ATRIPLEX maritima laciniata.* C. B. P. Sea-orrach, with jagged Leaves.

7. *ATRIPLEX angusto oblongo folio.* C. B. P. Long narrow-leav'd Orrach.

8. *ATRIPLEX angustissimo & longissimo folio.* H. L. Orrach with very long narrow Leaves.

9. *ATRIPLEX sylvestris, fructu compresso roseo & stellato.* C. B. Prod. Wild Orrach, with a compressed starry and rose-shaped Fruit.

10. *ATRIPLEX Cretica maritima erecta, folio triangulari.* Tourn. Cor. Upright Sea Candy Orrach, with a triangular Leaf.

11. *ATRIPLEX Græca fruticosa humifusa, halimi folio.* Tourn. Cor. Dwarf shrubby Orrach, with a Sea-purslane-leaf.

12. *ATRIPLEX Orientalis frutescens, folio amplissimo argenteo.* Tourn. Cor. Shrubby Oriental Orrach, with a large silver-colour'd Leaf.

The first of these Plants was formerly cultivated in the Kitchen-gardens, as a culinary Herb, being used

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as Spinach, and is by some Persons preferred to it; though, in general, it is not esteemed amongst the *English*; but the *French* now cultivate this Plant for Use.

The second and third Sorts are believed to be Varieties of the first; for they differ in nothing from that, but in the Colour of their Stalks and Leaves: however, this Difference is not accidental; for I have several Years cultivated all the three Sorts in the same Soil, and they have always retained their Difference from Seeds, and have not interchanged, as most Varieties generally do.

These Plants are annual; so must be sown for Use early in the Spring, or at *Michaelmas*, soon after the Seeds are ripe; at which time it generally succeeds better than when it is sown in the Spring, and will be fit for Use at least a Month earlier in the Spring. These Plants require no other Culture, but to hoe them when they are about an Inch high; to cut them down where they are too thick, leaving them about four Inches asunder; and to cut down all the Weeds. When your Plants are grown about four Inches high, it will be proper to hoe them a second time, in order to clear them from Weeds; and, if you observe the Plants are left too close in any Part, you must then cut them out. Where these Plants are sown on a rich Soil, and allowed a good Distance, the Leaves will be very large, in which the Goodness of the Herb consists. This must be eaten while it is young; for, when the Stalks become tough, it is good for nothing. Some few Plants of each Kind may be permitted to stand for Seed, to preserve their Kinds, which will ripen in *August*, and may then be cut, and laid on a Cloth to dry; after which the Seeds may be beaten out, and put up for Use.

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The first Sort is ordered by the College of Physicians for medicinal Use.

The fourth Sort was formerly cultivated in Gardens as a Shrub; and, by some Persons, they were formed into Hedges, and constantly sheared, to keep them thick: but I do not approve of this Plant for such Purposes, on many Accounts; for it is too vigorous: the Shoots, in one Month, at the growing Season of the Year, will be two Feet long, provided they have a good Soil; so that an Hedge of this Plant cannot be kept in tolerable Order, nor will it ever form a thick Hedge. But a worse Inconvenience attends this Plant; for, in very hard Winters, it is often destroyed; as also, in very dry Summers, many of the Plants will decay, whereby there will become large Gaps in the Hedge.

But although this Plant be not proper for Hedges, yet it may have a Place in Wilderness-quarters, where it will serve to thicken; and the silver-coloured Leaves will add to the Variety, amongst other Shrubs of the same Growth. This will grow eight or ten Feet high, and, if suffered to grow wild, without pruning, will spread several Feet in Compass, and will sometimes produce Flowers.

It may be propagated by Cuttings, which may be planted in any of the Summer-months, on a shady Border, where, if they are duly watered, they will soon take Root, and will be fit to transplant the *Michaelmas* following, when they should be planted where they are to remain; for they do not succeed well in transplanting when they are grown pretty large and woody.

The fifth Sort grows wild in divers Parts of *England*, on the Sea-side, from whence the Plants may be procured;

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cured; or it may be propagated by Cuttings, in the same manner as the former Sort. This is a low Under-shrub, seldom rising above two Feet and an half, or at most three Feet high; but becomes very bushy. The Leaves of this Kind are narrow, and of a whitish Colour; but are not so white as those of the former. This may have a Place amongst other low Shrubs; and, if planted on a poor gravelly Soil, will abide several Years, and make a pretty Diversity.

The sixth, seventh, eighth, and ninth Sorts grow wild in *England* and *Holland*; and are seldom preserved but in Botanic Gardens, for the sake of Variety. These are propagated by Seeds, which may be sown soon after they are ripe, when they will succeed much better than if they are sown in the Spring. When the Plants are come up, they should be thinned, so as to leave them four or five Inches distant, and kept clear from Weeds; which is all the Culture they require. If the Seeds of these Plants are permitted to fall on the Ground, they will stock the Garden with Weeds; therefore they should be pulled up as soon as the Seeds begin to ripen; and, where the Sorts are to be preserved, a few Seeds of each may be saved, and the Plants destroyed before the Seeds scatter.

The tenth, eleventh, twelfth, and thirteenth Sorts were discovered by Dr. *Tournefort*, in the *Levant*, who sent their Seeds to the Royal Garden at *Paris*, from whence they have been communicated to several Gardens in *Holland* and *England*. The tenth Sort may be propagated by Seeds, as the four former Sorts; but must have a warmer Situation, otherwise it will not perfect Seeds in this Country.

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The other two Sorts may be propagated by Seeds, or by Cuttings planted on a shady Border, as was directed for the fourth and fifth Sorts. These must be planted in Pots, and sheltered in Winter under a Garden-frame, where they may have as much free Air as possible in mild Weather; but in hard Frost they must be sheltered, otherwise it will destroy them. Some of these Plants may be planted on a warm Border, in a poor gravelly Soil, where they will endure the Cold of our ordinary Winters very well, and will make a pretty Variety amongst Plants of the same Growth. The eleventh Sort will seldom rise above two Feet high; but the twelfth and thirteenth Sorts will grow to be six or seven Feet high.

AVENA, Oats.

The Characters are;

It is distinguished from other Corn, by the Grain growing in loose Panicles.

The Species are;

1. AVENA vulgaris seu alba. C. B. P. Common or white Oats.
2. AVENA nigra. C. B. P. Black Oats.
3. AVENA nuda. C. B. P. Naked Oats.
4. AVENA rubra. Red or brown Oats.

The first Sort here mentioned is the most common about *London*: the second Sort is more cultivated in the Northern Parts of *England*, and is esteemed a very hearty Food for Horses; but the first makes the whitest Meal, and is chiefly cultivated where the Inhabitants live much upon Oatcakes.

The third Sort is less common than either of the other, especially in the Southern Parts of *England*; but, in the North of *England*, *Scotland*, and *Wales*, it is cultivated in plenty.

plenty. This Sort is esteemed, because the Grain threshes clean out of the Husk, and need not be carried to the Mill to be made into Oatmeal or Grist. An Acre of Ground doth not yield so many Bushels of these, as of the common Oats, by reason the Grain is small and naked, and goes near in Measure; but what is wanting in the Measure, is supplied in Value.

The red Oats are much cultivated in *Derbyshire*, *Staffordshire*, and *Cheshire*; but are never seen in any of the Counties near *London*; though, as they are very hardy, and give a good Increase, they would be well worth propagating, especially for all strong Lands.

The Straw of these Oats is of a brownish-red Colour, as is also the Grain, which is very full and heavy, and esteemed better Food for Horses than either of the former Sorts.

Oats are a very profitable Grain, and absolutely necessary, being the principal Grain which Horses love; and are esteemed the most wholesome Food for those Cattle, being sweet, and of an opening Nature; other Grains being apt to bind, which is injurious to labouring Horses: but if you feed them with this Grain, soon after they are housed, before they have sweat in the Mow, or are otherwise dried, it is as bad on the one hand; for they are then too laxative.

This Grain is a great Improvement to many Estates in the North of *England*, *Scotland*, and *Wales*; for it will thrive on cold barren Soils, which will produce no other Sort of Grain; it will also thrive on the hottest Land: in short, there is no Soil too rich or too poor for it, too hot or too cold for it: and in wet Harvests, when other Grain is spoiled, this will receive little or no Damage;

the Straw and Husks being of so dry a Nature, that, if they are housed wet, they will not heat in the Mow, or become mouldy, as other Grain usually do; so is of great Advantage in the Northern Parts of *England*, and in *Scotland*, where their Harvest is generally late, and the Autumns wet.

The Meal of this Grain makes tolerable good Bread, and is the common Food of the Country-people in the North. In the South it is esteemed for Pottage, and other Messes; and, in some Places, they make Beer with this Grain.

The best time for sowing of Oats is in *February* or *March*, according as the Season is early or late; and sometimes I have known it sown in *April*, and has been early ripe. The black and red Oats may be sown a Month earlier, than the white, because they are hardier.

Oats are often sown on Land which has the former Year produced Wheat, Rye, or Barley. The common Method is to plow in the Stubble about the Beginning of *February*, and sow the Oats, and harrow them in; but then they must be harrowed the same Way as the Furrows lie; for, if it be done cross-ways, the Stubble will be raised on the Surface: but when People have time to plow the Stubble in Autumn, it will rot in Winter; and then giving the Land another Plowing, just before the Oats are sown, it will make the Ground finer, and better to receive the Grain. Most People allow four Bushels of Oats to an Acre; but I am convinced three Bushels are full enough; the usual Produce is about twenty-five Bushels to an Acre, tho' I have sometimes known more than thirty Bushels on an Acre.

Oats are also sown upon Land when it is first broken up, before the

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Ground is brought to a Tilt for other Grain; and is frequently sown upon the Sward with one Plowing; but it is much better to give the Sward time to rot, before the Oats are sown.

AURANTIUM, The Orange-tree.

The Characters are;

The Leaves have two Lobes or Appendages at their Base, which are like Ears, and cut in form of an Heart: the Fruit is round and depressed, and of a yellow Colour when ripe: the Juice is sweet; in which it differs from the Citron and Lemon.

The Species are;

1. **AURANTIUM acri medulla**, vulgare. Ferr. Hesp. The common Seville Orange.

2. **AURANTIUM medulla dulci**, vulgare. Ferr. Hesp. The sweet Seville Orange.

3. **AURANTIUM Sinense**. Ferr. Hesp. The China Orange.

4. **AURANTIUM crispo folio**. Ferr. Hesp. The curl'd-leav'd Orange.

5. **AURANTIUM crispo folio, elegantissime variegato**. Boerb. Ind. The striped curl'd-leaved Orange.

6. **AURANTIUM corniculatum**. Ferr. Hesp. The horned Orange.

7. **AURANTIUM folio variegato, vulgare, Anglicum dictum**. Boerb. Ind. The common striped Orange.

8. **AURANTIUM hermaphroditum, partim Aurantium, partim Citrium**. The Hermaphrodite Orange.

9. **AURANTIUM angusto salicis folio dictum**. Boerb. Ind. Willow-leaved Orange, commonly called, The Turkey Orange.

10. **AURANTIUM angusto salicis folio, elegantissime variegato**. The striped Turkey Orange.

11. **AURANTIUM fructu maximo, Indie Orientalis**. Boerb. Ind. The Pumpmoes, or Shaddock.

12. **AURANTIUM flore duplici**.

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Ferr. Hesp. The double flower'd Orange.

13. **AURANTIUM pumilum, subacri medulla**. Bartol. The common Dwarf, or Nutmeg Orange.

14. **AURANTIUM pumilum, folio & fructu variegato, medulla peracida**. Bartol. The Dwarf striped Orange.

15. **AURANTIUM Sinicum pumilum**. Camel. The Dwarf China Orange.

16. **AURANTIUM fœmina, seu fœtiferum**. Ferr. Hesp. The child-ing Orange.

17. **AURANTIUM distortum**. Ferr. Hesp. The distorted Orange.

18. **AURANTIUM maximum, verrucoso cortice**. Bartol. The large warted Orange.

19. **AURANTIUM stellatum & roseum**. Ferr. Hesp. The starry Orange.

20. **AURANTIUM dulci cortice**. Ferr. Hesp. The Orange with a sweet Rind.

The China Orange is not so hardy as the Seville; therefore must be treated more tenderly, placing it in Winter in the warmest Part of the Green-house, and housing it earlier in Autumn; otherwise the Fruit will all drop from the Trees. This Sort rarely produces good Fruit in England, nor are the Leaves of the Tree near so large, or beautiful, as those of the Seville Orange; therefore the latter should be prefer'd, and only a Tree or two of the China Sort kept for Variety.

The two Dwarf Oranges are also tender, and their Leaves are very small, growing in Clusters: the Flowers of these grow very close together, and appear like a Nofegay, the Branches being covered with them. This Sort, when in Flower, is proper to place in a Room or Gallery, to adorn them; the Flowers, being very

very sweet, will perfume the Air of the Place; but these are seldom to be found in good Health, because they must be treated with more Care than the common Orange and Lemon-trees: as must also the Shaddock, otherwise the Fruit will always drop off in Winter. This Sort was brought from the *East-Indies* by one Capt. *Shaddock*, from whom the Inhabitants of the *West-Indies* gave this Fruit the Name. But they have greatly degenerated the Fruit since it has been in the *West-Indies*, by raising the Trees from Seeds; the greatest Part of which produce an harsh sour Fruit, greatly inferior to the original Sort; which, if they would bud from the good Sort, they might have in as great Plenty as they pleas'd; but there are few Persons in that Part of the World, who understand the Way of grafting or budding Fruit-trees; and if they did, they are so negligent of their Fruits, &c. as to leave the Whole to Nature; seldom giving themselves any farther Trouble, than to put the Seeds into the Ground, and leave them to grow as Nature shall incline.

All the Sorts of Orange-trees with strip'd Leaves are tender; therefore must be placed in a warm Part of the Green-house in Winter; and must be treated with more Care than the common Sort, otherwise they will not thrive. These are Varieties which some Persons are fond of; but they never produce good Fruit, nor are the Flowers produced in so great Plenty: therefore a few only should be preserved for the sake of Variety.

The starry Orange differs from the other Sorts, in the Fruit dividing into five Parts, and the Rind expanding in form of a Star: this, and the distorted Orange, are preserved by

some curious Persons for Variety; but they are not so beautiful as the common Orange. There are also a great Variety of sweet Oranges both in the *East* and *West-Indies*, some of which are much more esteemed than those we now have in *Europe*; but as they are much tenderer, they will not thrive in this Country with the common Culture: therefore I shall not enumerate them; but shall proceed to give Directions for the Management of Orange-trees in *England*.

If you purpose to raise Stocks for budding of Oranges, you should procure some Citron-seeds which were duly ripen'd; for the Stocks of this Kind are preferable to any other, both for Quickness of Growth, as also that they will take Buds of either Orange, Lemon, or Citron; next to these are the *Seville* Orange-seeds. The best Seeds are usually to be had from rotten Fruits, which are commonly easy to be procured in the Spring of the Year: then prepare a good Hot-bed, of either Horse-dung, or Tanners Bark; the last of which is much the better, if you can easily procure it. When this Bed is in a moderate Temper for Heat, you must sow your Seeds in Pots of good rich Earth, and plunge them into the Hot-bed: in three Weeks time your Seeds will come up; and if the young Plants are not stunted, either for want of proper Heat or Moisture, they will be, in a Month's time after their Appearance, fit to transplant into single Pots: you must therefore renew your Hot-bed; and having prepared a Quantity of small Halfpeny Pots (which are about five Inches over at the Top), fill these half-full of good fresh Earth, mix'd with very rotten Cow-dung; and then shake out the young Plants from the large Pots, with all the Earth about them,

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that you may the better separate the Plants without tearing their Roots ; and having half filled the Pots with Earth, put a single Plant into each of the small Pots ; then fill them up with the same Earth as before directed, plunging the Pots into the new Hot-bed, giving them a good Watering to fix the Earth to their Roots, and observe to repeat the same very often (for this Plant, when in an Hot-bed, requires much Water) ; but be sure to screen them from the Sun in the Heat of the Day. In this Method, with due Care, your Plants will grow to be two Feet high by *July* ; when you must begin to harden them by degrees, in raising your Glasses very high ; and, when the Weather is good, take them quite off ; but do not expose them to the open Sun in the Heat of the Day ; which would be very injurious to them, especially while young. Toward the End of *September* you must house them, observing to place them near the Windows of the Green house, to prevent the Damps from moulding their tender Shoots. During the Winter-season they may be often refreshed with Water ; and, in *March* or *April*, wash their Heads and Stems, to clear them from the Filth that may have settled thereon, during their being in the House ; and then you must also give them a gentle Hot-bed in the Spring, which will greatly forward them ; but harden them by the Beginning of *June*, that they may be in right Order to bud in *August* ; when you should make choice of Cuttings from Trees that are healthy and fruitful, of whatever Kinds you please, observing that the Shoots are round ; the Buds of these being much better, and easier to part from the Wood, than such as are flat. When you have budded the Stocks, you should remove them into a Green-house, to

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defend them from Wet, turning the Buds from the Sun ; but let them have as much free Air as possible, and refresh them often with Water. In a Month's time after Budding, you will see which of them has taken ; you must then untie them, that the Binding may not pinch their Buds, and let them remain in the Green-house all the Winter ; then, in the Spring, prepare a moderate Hot-bed of Tanners Bark ; and, after having cut off the Stocks about three Inches above the Buds, plunge their Pots into the Hot-bed, observing to give them Air and Water, as the Heat of the Weather shall require ; but be sure to screen them from the Violence of the Sun during the Heat of the Day. In this Management, if your Buds shoot kindly, they will grow to the Height of two Feet, or more, by *July* ; at which time, you must begin to harden them before the cold Weather comes on, that they may the better stand in the Green-house the following Winter. In the first Winter after their shooting, you must keep them very warm ; for, by forcing them in the Bark-bed, they will be somewhat tenderer ; but it is very necessary to raise them to their Height in one Season, that their Stems may be strait ; for in such Trees, which are two or more Years growing to their Heading-height, the Stems are always crooked. In the succeeding Years, their Management will be the same as in full-grown Trees, which will be hereafter treated of : I shall therefore, now, proceed to treat of the Management of such Trees as are brought over every Year in Chests from *Italy* ; which is, indeed, by much the quicker Way of furnishing a Green-house with large Trees ; for those which are raised from Seeds in *England*, will not grow so large in their Stems under

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der eighteen or twenty Years, as these will have when brought over; and although their Heads are small when we receive them, yet, in three Years, with good Management, they will obtain large Heads, and produce Fruit.

In the Choice of these Trees, observe, first, the Difference of their Shoots and Leaves (if they have any upon them), to distinguish their different Sorts; also prefer those that have two good Buds in each Stock (for many of them have but one, which will always produce an irregular Head): the Straitness of the Stem, Freshness of the Branches, and Plumpness of the Bark, are necessary Observations.

When you have furnished yourself with a Parcel of Trees, you must prepare a moderate Hot-bed of Tanners Bark, in Length and Breadth according to the Number of Trees; then put your Trees into a Tub of Water upright, about half-way of the Stems, leaving the Head and upper Part of the Stem out of the Water, the better to draw and imbibe the Moisture. In this Situation they may remain two or three Days (according to their Plumpness when you receiv'd them); then take them out, and clean their Roots from all Filth, cutting off all broken or bruised Roots, and all the small Fibres, which are quite dried by being so long out of the Earth; and scrub the Stems with an hard Hair-brush, cleaning them afterwards with a Cloth; then cut off the Branches about three Inches from the Stem; and having prepared a Quantity of good fresh Earth, mix'd with very rotten Neatsdung, plant your Trees therein, observing never to put them into large Pots; for if they are but big enough to contain their Roots, it is sufficient at first planting: and be sure

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to put some Pottsheads and large Stones in the Bottom of each Pot, to keep the Holes at the Bottom of the Pots from being stopp'd with Earth, that the Water may freely pass off; then plunge these Pots into the Bark-bed, watering them well to settle the Earth to their Roots, frequently repeating the same as they may require it; and observe to screen the Glasses of your Hot-bed from the Sun in the Heat of the Day.

If your Trees take to grow kindly (as there is little Reason to doubt of, if the Directions given be duly observed), they will have made strong Shoots by the Beginning of *June*; at which time you should stop their Leaders, to obtain lateral Branches to furnish their Heads: and now you must give them Air plentifully, and begin to harden them, that in the Middle of *July* they may be remov'd into the open Air, in some warm Situation, defended from the great Heat of the Sun, and from Winds, that they may be harden'd before Winter. About the End of *September* you should house these Plants, setting them, at first, in the Front of the Green-house, near the Glasses, keeping the Windows open at all times when the Weather will permit; and about the Latter-end of *October*, when you bring in the Myrtles, and other less tender Trees, you must set your Oranges in the warmest and best Part of the House, placing lower Plants or Trees in the Front, to hide their Stems. During the Winter, let your Waterings be frequent, but give them not too much at a time; for now their Heads are but small, and therefore incapable to discharge too great a Quantity of Moisture; and take great Care to guard them from Frost.

In the Spring, when you begin to take out some of your hardiest Sorts
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of Plants, to thin your House, wash and cleanse the Stems and Leaves of your Orange-trees, taking out the upper Part of the Earth in the Pots, filling them up again with good fresh Earth, laying thereon a little rotten Neats-dung round the Outer-side of the Pots; but do not let it lie near the Stem of the Trees; then place them at wider Distances in the House, that the Air may circulate round their Heads; giving them Air discretionally, as the Weather grows warm; but do not remove them into the open Air until the Middle of *May*, that the Weather is settled; for many times, when they are removed out too soon, the Mornings often proving cold, give them at least a great Check, and many times kill the extreme weak Part of the Shoots. Let the Situation, for your Orange-trees, during the Summer-season, be as much defended from the Sun, in the Heat of the Day, and strong Winds, as possible, by tall Trees and Hedges; both of which, if they are exposed thereto, are very hurtful to them.

As these Trees advance, it will be necessary, in the Summer, to stop strong Shoots, when they grow irregular, to force out lateral Branches to fill the Head; but do not pinch off the Tops of all the Shoots (as is the Practice of some), which will fill the Tree with small Shoots, too weak to support Fruit; but endeavour to form a regular Head, and obtain strong Shoots; taking away weak trifling Branches where they are too close.

During the Summer-season, your Orange-trees will require frequent and plentiful Waterings in dry Weather, especially if they are large: therefore you should endeavour to have the Water as near the Trees as possible, to save the Trouble of car-

rying it; which, in a large Quantity of Trees, takes up much Time. Your Water should be soft, and exposed to the Air; but never add Dung of any Sort thereto; which, although by many frequently recommended, yet has always been found destructive to these, and all other Trees, if much used; it being like hot Liquors to human Bodies, which, at first taking, seem to add Vigour, yet certainly leave the Body weaker, after some time, than before.

Your Orange-trees will require to be shifted, and new-potted, every other Year; therefore you must prepare a Quantity of good Earth, at least a Year before you intend to use it, that it may be well mix'd, and perfectly rotten. The best Season for this Work is about the End of *April*, that they may have taken fresh Root before they are removed out of the Green-house: when this Work is performed, it will be necessary to let them remain in the House a Fortnight longer than usual, to be well settled.

In the performing of this Work, after you have drawn the Trees out of the Pots, you must cut off all the Roots round the Outside of the Ball of Earth, and take away all mouldy Roots (if any such be); then, with a sharp iron Instrument, get as much of the old Earth from between the Roots as possible, being careful not to break or tear the Roots; then set the Root of the Tree into a large Tub of Water for about a Quarter of an Hour, to soak the Under-part of the Ball of Earth; then scrub the Stems of the Trees with an hard Hair-brush, cleaning them, and the Heads, with Water, and a soft Woolen-cloth. Your Pots being prepared, with some Potshards and large Stones in the Bottom, put some of your fresh Earth into the Pot, about two Inches thick;

thick; and having placed your Tree thereon, in the Middle of the Pot, upright, fill it up with the same rich Earth, pressing it down hard with your Hands; then water the Tree all over the Head, with a Watering-pot that has a Rose upon the Spout, to let the Water fall light and thick (as in a Shower of Rain); and in watering these Trees, do it in the same manner, during the time they abide in the House after shifting: this will greatly refresh their Heads, and promote their taking fresh Roots.

When you first set these Trees abroad after shifting, you should place them near the Shelter of Hedges, and fasten their Stems to strong Stakes, to prevent their being disturbed by Winds; which, sometimes, will blow fresh-planted Trees out of the Pots, if too much expos'd thereto, and thereby greatly injure their new Roots.

If old Orange-trees have been ill managed, and their Heads become ragged and decayed, the best Method to restore them is, to cut off the greatest Part of their Heads early in *March*, and draw them out of the Tubs or Pots, and shake off the Earth from their Roots, cutting away all small Fibres, and mouldy Roots; and then soak and clean their Roots, Stems, and Branches, planting them into good Earth, and setting them into an Hot-bed of Tanners Bark, as was directed for such Trees as came from Abroad, managing them in the same manner: by this Method they will produce new Heads, and, in two Years time, become good Trees again. But if these are large Trees, and have grown in Tubs for several Years, your best Way will be, to prepare a Parcel of rough Baskets (such as are used for basketing Ever-greens, when sent to a distant

Place): let these be somewhat less than the Tubs you design to plant your Trees into; then plant your Trees herein, plunging them into the Hot-bed; and about the Beginning of *July*, when your Trees have made good Shoots, you may remove them into the Tubs, with their Baskets about them, filling the empty Space with the same good Earth: this will preserve your Tubs from rotting in the Bark, and the Trees will do equally well as if planted into the Tubs at first; provided you are careful, in removing the Baskets, not to disturb their Roots; and also, let them remain in the Green-house a Fortnight or three Weeks after planting, before you set them abroad.

These Trees being new-potted or tubb'd every other Year, those Years in which they are not shifted, you must in *April* observe to take out as much of the old Earth from the Tops of the Pots and Tubs, and also round the Sides of them, as possible, without injuring the Roots of the Trees, and fill them up with fresh Earth; you must also wash and clean their Stems and Leaves from Filth, which will greatly strengthen their Flowering, and cause them to shoot vigorously the following Summer.

In the Management of Orange-trees which are in good Health, the chief Care should be to supply them with Water duly, and not (as is sometimes practis'd) starve them in Winter, whereby their Fibres are dried, and become mouldy, to the great Prejudice of the Trees; nor to give them Water in too great Abundance; but rather let their Waterings be frequent, and given in moderate Quantities. You must also observe, that the Water has free Passage to drain off; for if it be detained in the Tubs or Pots, it will rot the tender Fibres of the Trees. During the Winter-season

season they must have a large Share of Air, when the Weather is favourable; for nothing is more injurious to these Trees than stifling of them; nor should they be placed too near each other in the Green-house; but set them at such Distance, that their Branches may be clear of each other, and that the Air may circulate freely round their Heads. In Summer they should be placed where the Winds are not violent, and so as to have the morning and evening Sun; for if they are too much exposed in the mid-day Sun, they will not thrive. The best Situation for them is near some large Plantation of Trees, which will break the Force of the Winds, and screen them from the violent Heat of the Sun. In such a Situation they may remain until the Beginning of *October*, or later, according as the Season proves favourable; for if they are carried into the Green-house early, and the Autumn should prove warm, it will occasion the Trees to make fresh Shoots, which will be weak and tender, and so liable to perish in Winter; and sometimes it will occasion their Flowering in Winter, which greatly weakens the Trees: nor should they remain so long abroad as to be injured by morning Frosts.

The best Compost for Orange-trees is two-thirds of fresh Earth from a good Pasture, which should not be too light, nor over-stiff, but rather an Hazel-loam: this should be taken about ten Inches deep with the Sward, which should be mixed with the Earth to rot, and one-third Part of Neats-dung: these should be mixed together, at least twelve Months before it is used, observing to turn it over every Month, to mix it well, and to rot the Sward; this will also break the Clods, and cause the Mould to be finer. Before you

make use of this Earth, you should pass it thro' a rough Screen, to separate the great Stones and the Roots of the Sward therefrom; but by no means sift the Earth too fine; for this is very prejudicial to most Plants, but particularly to Orange-trees.

Of late Years there have been many of these Trees planted against Walls, and Frames of Glafs made to fix over them in Winter; and some few curious Persons have planted these Trees in the full Ground, and have erected moveable Covers over these Trees in Winter, which are so contrived as to be all taken away in Summer: where these have been well executed, the Trees have made great Progress in their Growth, and produced a much larger Quantity of Fruit, which have ripened so well, as to be extremely good for eating. If these are planted either against Walls with Design of training the Branches to the Walls, or in Borders at a small Distance, so as to train them up as Standards, there should be a Contrivance of a Fire-place or two, in proportion to the Length of the Wall, and Flues carried the whole Length of the Wall, to warm the Air in very cold Weather, otherwise it will be very difficult to preserve the Trees in very hard Winters alive; or, if they do live thro' the Winter, they will be so much weakened by the Cold, as not to be recovered the following Summer to a proper Strength for bearing; so that where-ever these Trees are intended to be placed against or near old Walls, the Flues should be built up against the Front, allowing four Inches Thickness of the Brick-work, on each Side the Flues, observing to fasten this with Irons, at proper Distances, to secure it from separating from the old Wall. The manner of making these Flues is fully explained under the Article of

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of Hot-walls. Where this Contrivance is made, there will be no Hazard of losing the Trees, be the Winter ever so severe, with a little proper Care; whereas, if this is wanting, there will require great Care and Trouble to cover and uncover the Glasses every Day, when there is any Sun; and if the Wall is not thicker than they are usually built, the Frost will penetrate through the Walls in severe Winters; so that covering and securing the Glasses of the Front will not be sufficient to preserve the Trees, be it done with ever so much Care: therefore the first Expence of the Walls will save great Trouble and Charge, and be the securest Method.

If the Ground is wet, or of a strong Clay, so as to detain the Moisture, the Borders should be rais'd above the Level of the Ground, in proportion to the Situation of the Place; for where the Wet lies in Winter near the Surface, it will greatly prejudice, if not totally destroy, the Trees; so that Lime-rubbish should be laid at least two Feet thick, in the Bottom of the Border, to drain off the Wet; and the Earth should be laid two and an half or three Feet thick thereon for the Roots of the Trees: in these Borders there may be a few Roots of the *Guernsey* and *Belladonna* Lilies planted, or any other Exotic bulbous-rooted Flowers, which do not grow high, or draw too much Nourishment from the Borders; and these, producing their Flowers in Autumn or Winter, will make a good Appearance, and will thrive much better than if kept in Pots.

The Management of the Orange-trees, in these Places, is nearly the same as hath been directed for those in Pots or Tubs, excepting that the Borders in these Places should be dug,

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and refresh'd with some very rotten Dung every Autumn.

AURICULA URSI, Bear's ear, or Auricula.

The Characters are;

It hath a perennial Root: the Leaves are smoother and thicker than those of the Primrose: the Cup of the Flower is shorter, so that the Tube appears naked: the Flower is shaped like a Funnel: the Upper-part is expanded and divided into five Segments: this is succeeded by a globular Seed-vessel, containing many small Seeds.

To enumerate the Diversities of this Plant, would be almost endless and impossible; for every Year produces vast Quantities of new Flowers, differing in Shape, Size, or Colour of the Flowers; and also in the Leaves of these Plants there is as great a Variety, so that the skilful Florist is oftentimes capable of distinguishing the particular Sorts thereby.

But as it seldom happens, that such of these Flowers as are at one time in great Esteem, continue to be regarded a few Years after (there being still finer or larger Flowers produced from Seeds, which are what the Florists chiefly seek), it would be needless to mention any of them: wherefore I shall proceed to give the Characters of a good Auricula.

1. *The Stem of the Flower should be lofty and strong.*

2. *The Footstalk of the Flower should be short, that the Umbel may be regular and close.*

3. *The Pipe or Neck of each Flower should be short, and the Flowers large, and regularly spread, being no-ways inclinable to cup.*

4. *That the Colours are very bright, and well mixed.*

5. *That the Eye of the Flower be large, round, and of a good White,*

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or Yellow; and that the Tube or Neck be not too wide.

All the Flowers of this Kind, that want any of the above-mentioned Properties, are now rejected by every good Florist; for as the Varieties every Year increase from Seeds, so the bad ones are turn'd out to make room for their Betters; but in some People the Passion for new Flowers so much prevails, that, supposing the old Flower greatly preferable to a new one, if it is of their own raising, the latter must take place of the old one.

In order to obtain good Flowers from Seeds, you must make choice of the best Flowers you have; which should be exposed to the open Air, that they may have the Benefit of Showers, without which they seldom produce good Seeds: the time of their Ripening is in *June*, which you will easily know, by their Seed-vessel turning to a brown Colour, and opening: you must therefore be careful lest the Seeds be scatter'd out of the Vessel; for it will not be all fit to gather at the same time.

The time for sowing this Seed is commonly in *August*; but if it be sown before *Christmas*, it will be time enough.

The best Soil for this Seed is good fresh light sandy Mould, mix'd with very rotten Neats-dung, or Tanners Bark: with this you should fill your Pots, Boxes, or Baskets, in which you intend to sow your Seeds; and, having levell'd the Surface of the Earth very smooth, sow your Seeds thereon, covering it very lightly with rotten Willow-mould taken out of the Stems of decay'd hollow Willow-trees; then cover the Box, &c. with a Net or Wire, to prevent the Cats, Fowls, &c. from scratching out, or burying your Seeds too deep; for whenever this happens, the Seeds

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will remain a Year in the Ground before the Plants appear, if they should grow at last; so that many Persons never cover these Seeds, but leave them upon the Surface of the Earth, in the Boxes, for the Rain to wash them into the Ground, which is often the best Method: let these Boxes, &c. be placed so as to receive half the Day's Sun, during the Winter-season; but in the Beginning of *March*, remove them where they may have only the morning Sun till Ten of the Clock; for your young Plants will now soon begin to appear, which, if exposed to one whole Day's Sun only, will be all destroyed.

During the Summer-season, in dry Weather, often refresh them with Water; but never give them too great Quantities at once. In the *July* following, your Plants will be large enough to transplant, at which time you must prepare a Bed, or Boxes, filled with the above-mentioned Soil, in which you may plant them about three Inches square, and, if in Beds, you must shade them every Day, till they are thoroughly rooted, as also in very hot dry Weather; but if they are in Baskets, or Boxes, they may be removed to a shady Place.

When the seedling Auricula's are planted in Beds, some rotten Neats-dung should be laid about ten Inches under the Surface, and beaten down close and smooth: this will prevent the Worms from drawing the young Plants out of the Earth, which they generally do where this is not practised: this Dung should be laid about a Foot thick, which will intirely prevent the Worms getting thro' it until the Plants are well established in the Beds; and the Roots of the Auricula's will strike down into the Dung by the Spring, which will make their Flowers stronger than usual:

usual: these Beds should be exposed to the East, and screened from the South Sun.

When you have taken all your Plants, which are now come up, out of your Boxes or Pots, level the Earth gently again; for it often happens, that some of the Seeds will lie in the Ground two Years before they appear, especially if they were covered too deep when sown, as was before observed.

The Spring following many of these Flowers will shew; when you may select such of them as have good Properties, which should be removed each of them into a Pot of the same prepared Earth, and preserved until the next Season, at which time you will be capable to form a Judgment of the Goodness of the Flower; but those that produce plain-colour'd or small Flowers, should be taken out, and planted in Borders in the Out-parts of the Garden, to make a Shew, or gather for Nosegays, &c. the others, which do not produce their Flowers the same Year, may be taken up, and transplanted into a fresh Bed, to remain till you see how they will prove.

The manner of propagating these Flowers when obtained, is from Off-sets, or Slips, taken from the old Roots in *April*, when the Flowers are in Bloom: these Off-sets must be planted into small Pots filled with the same Sort of Earth, as was before directed for the Seedlings; and, during the Summer-season, should be set in a shady Place, and must be often refreshed with Water; but in the Winter should be sheltered from violent Rains: the Spring following, these young Plants will produce Flowers, tho' but weak: soon after they are past flowering, you must put them into larger Pots, and

the second Year they will blow in Perfection.

But, in order to obtain a fine Bloom of these Flowers, you must observe the following Directions.

First, Preserve your Plants from too much Wet in Winter, which often rots and spoils them; but let them have as much free open Air as possible; nor should they be too much exposed to the Sun, which is apt to forward their budding for Flower too soon; and the frosty Mornings, which often happen in *March*, do thereby destroy their Buds, if they are not protected therefrom.

Secondly, In the Beginning of *February*, if the Weather is mild, you must take off the Upper-part of the Earth in the Auricula's Pots, as low as you can without disturbing the Roots, and fill up the Pots with fresh rich Earth, which will greatly strengthen them for Bloom; as also prepare your Off-sets for transplanting in *April*, by causing them to push out new Roots.

Those Plants which have strong single Heads, always produce the largest Clusters of Flowers: therefore the curious Florists pull off the Off-sets as soon as it can be done with Safety to their growing in Autumn, to encourage the Mother-plants to flower the stronger; they also pinch off the Flowers in Autumn, where they are produced, and suffer them not to open, that the Plants should not be weakened thereby.

Thirdly, You must cover your Pots with Mats in frosty Weather, during this time of their Budding for Flower, lest the sharp Mornings blight them, and prevent their blowing.

Fourthly, When your Flower-stems begin to advance, and the Blossom-

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Blossom-buds grow turgid, you must protect them from hasty Rains, which would wash off their white mealy Farina, and greatly deface the Beauty of their Flowers; but, at the same time, observe to keep them as much uncovered as possible, otherwise their Stems will be drawn up too weak to support their Flowers, which is often the Case when their Pots are placed under Walls, and give them gentle Waterings to strengthen them; but let none of the Water fall into the Centre of the Plant, or among their Leaves.

Fifthly, When your Flowers begin to open, you should remove their Pots upon a Stage, built with Rows of Shelves, one above another, and covered on the Top, to preserve them from Wet: this should be open to the morning Sun, but shelter'd from the Heat of the Sun in the Middle of the Day: in this Position they will appear to much greater Advantage, than when the Pots stand upon the Ground; for, their Flowers being low, their Beauty is hid from us; whereas, when they are advanced upon Shelves, we see them in a full View: in this Situation they may remain, until the Beauty of their Flowers is past; when they must be set abroad to receive the Rains, and have open free Air, in order to obtain Seeds, which will fail, if they are kept too long under Shelter. When your Seed is ripe, observe to gather it when it is perfectly dry, and expose it to the Sun in a Window upon Papers, to prevent its growing mouldy, and let it remain in the Pods till the Season for sowing it.

AURICULA URSI MYCONI.

Vide Verbascum.

AZEDARACH, The Bead-tree.

The Characters are;

It hath pennated Leaves, somewhat

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like those of the Ash: the Flowers consist of five Leaves, which expand in form of a Rose: in the Centre of the Flower is a long fimbriated Tube, containing the Style: the Fruit is roundish and fleshy, containing an hard furrow'd Nut; which is divided into five Cells, each containing an oblong broadish Seed.

The Species are;

1. AZEDARACH. *Dod.* The Bead-tree.

2. AZEDARACH *semper-virens & florens. Tourn.* The Bead-tree, which is always green and flowering.

The first Sort is propagated only by Seeds, which may be obtained from *Italy, Portugal, or Spain*, where these Trees annually produce ripe Fruits in the Gardens where they are planted: for it is not an Inhabitant of either of those Countries, but is brought from the *Levant*. The Seeds or Berries should be sown in Pots filled with good fresh light Earth, and plunged into an Hot-bed of Tanners Bark; where, if the Seeds are fresh, they will come up in about two Months time. When the Plants are come up, you should water them frequently, and begin to let them have a large Quantity of free Air, by raising the Glasses every Day; and, in *July*, you should expose them to the open Air; in a well-sheltered Situation, that they may be hardened before Winter. In *October* you should remove the Pots into the Conservatory, where they should be placed near the Windows, that they may enjoy free open Air, when the Weather is fair; for they don't care to be over-topp'd with other Plants. During the Winter-season you must refresh them gently with Water; but by no means repeat this too often, nor give them too much each time; for their Leaves being fallen, they will not be in a Condition

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to throw off a Superfluity of Moisture.

In *March* following you may shake out your Plants from the Seed-pots, and divide them, planting each into a separate small Pot filled with fresh light Earth; then plunge them into a moderate Hot-bed, which will greatly promote their Rooting, and increase their Growth; but you should not draw them too much, but give them a large Share of Air, when the Weather is good; and in *June* you should remove them out into the open Air as before; and, during the three or four Winters, while the Plants are young, you must house them, to secure them from the Cold; but, when the Plants are grown pretty large and woody, some of them may be planted in the full Ground, in a warm Situation, where they will endure the Cold of our ordinary Winters very well; but some should be kept in Pots, for fear a severe Winter should destroy the others: the best Season for this is in *April*, at which time you should shake them out of the Pots, being careful not to break the Earth from the Roots, but only pare off with a Knife the Outside of the Ball of Earth; then open your Holes, and put in the Plant, closing the Earth to its Roots, observing, if the Weather is dry, to give it some Water, which should be repeated twice a Week, until the Plants have taken Root; but you must observe to plant them on a dry Soil, and in a warm Situation, otherwise they will be liable to miscarry in severe frosty Weather.

I have been informed, that there was formerly a large Tree of this Kind in the Gardens of the Bishop of London at *Fulham*, which produced Flowers several Years; but this, with many other valuable Trees,

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which were grown to a considerable Height in the same Gardens, hath been long since demolished.

There are at present no large Trees of this Kind in *England*, all those which were planted in the open Air having been destroyed by the severe Winter in 1740. yet there are some, which were housed, that have flowered since; but I have never seen any ripe Seeds upon the Trees, tho' the Fruit has sometimes been formed, and grown pretty large; but the Cold of the Autumn has caused them to drop before they came to Maturity.

The outside Pulp of this Fruit is in some Countries eat, but I don't find it is much commended; but the Nut is by the *Monks*, and other religious Persons in Roman-catholic Countries, bored thro' with an Awl, and strung as Beads, with which they say their *Pater-noster*, which has occasioned its being called the Bead-tree.

The second Sort is at present very rare in *England*, being in very few Gardens: this is much tenderer than the common Sort, it being a Native of *Ceylon*: it is propagated by Seeds, which must be sown on an Hot-bed in the Spring; and, when the Plants are come up two or three Inches high, they must be transplanted each into a small Halfpeny Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to water and shade them, until they have taken Root; after which they must have Air and Water in proportion to the Warmth of the Season, or the Bed in which they stand. In this Bed they may remain until *Michaelmas*, when the Pots must be removed into the Stove, where they must have a moderate Share of Heat, and be often refreshed with Water. The Spring following they must be removed into larger Pots;

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and,

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and, if they are plunged into a moderate Hot bed, to facilitate their taking Root, it will greatly promote their Growth; but they should not remain too long in this Bed, nor be too much drawn, which will weaken them. As the Summer advances, they should be inured by degrees to bear the open Air, into which they should be removed in June, observing to place them where they may be screened from strong Winds, and not too much exposed to the mid-day Sun. In this Situation they may remain till the Middle of September, if the Weather is warm; otherwise they must be taken in sooner, when they must be removed into the Stove, and managed during the Winter-season, as was directed for the foregoing Winter; and, as the Plants grow large, they will be more hardy, when a small Share of Heat will preserve them in Winter; and, in Summer, they may be exposed in a well-sheltered Situation. With this Management they will sometimes produce Flowers extremely well in this Country.

AZEROLE, or L'AZAROLE.
Vide Mespilus.



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BACCHARIS. Plowman's Spikenard, *vulgo.*

The Characters are;

The Empalement of the Flower is cylindrical and scaly, the Scales lying over each other like the Tiles upon an House: the Flower is of the compound Kind, having several Florets included in one common Cover: the Seeds have a simple Down sitting upon them.

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The Species are;

1. BACCHARIS *foliis lanceolatis longitudinaliter dentato-serratis.* Lin. Hort. Cliff. Shrubby Plowman's Spikenard, with spear-shaped Leaves, which are longitudinally indented and sawed. This has been commonly called *African Groundsel-tree.*

2. BACCHARIS *foliis lanceolatis superne uno alterove denticulo serratis.* Lin. Hort. Cliff. Shrubby Plowman's Spikenard, with spear-shaped Leaves, whose Upper-sides are sawed.

3. BACCHARIS *foliis obverse ovatis, superne emarginato-serratis.* Lin. Hort. Cliff. Shrubby Plowman's Spikenard, with oval Leaves, whose upper Borders are sawed: commonly called the *Virginia Groundsel-tree.*

The *English* Name of Plowman's Spikenard has been always applied to the *Conyza major*, or Greater Fleabane; but since most of the modern Botanists have applied the Title of Baccharis to this Genus, I have added the old *English* Name to it, of Plowman's Spikenard, rather than leave it without an *English* Title.

The first Sort was brought from the *Cape of Good Hope*, and is usually kept by those Persons who are curious in collecting Exotics, tho' there is little Beauty in the Flower: it grows to the Height of five or six Feet, and is a manageable Shrub: it may be propagated by Cuttings, being planted in a shady Border during any of the Summer-months, or by Seeds sown on a common Border in the Spring of the Year. These Seeds generally ripen well in this Country; and, if permitted to scatter on the Ground, the Plants will come up the following Spring. This Shrub is pretty hardy, and will live abroad in mild Winters,
if

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if planted in a warm Situation; but it is usually kept in Shelter in Winter, and placed abroad in Summer: it requires much Water in warm Weather.

The second Sort is less common than the first, and not so hardy; therefore this is always kept in Pots, and housed in Winter: this may be propagated in the same manner as the first Sort.

The third Sort is pretty common in the Nurseries about London, where it is usually called the Groundsel-tree: this is a Native of *Virginia*, and other Places on the Continent of *America*: it grows to be a Shrub of about seven or eight Feet high, and flowers in *October*: the Flowers are white, and not very beautiful; but the Leaves continuing green thro' the Year, has occasioned this Shrub to be admitted into many curious Gardens.

This Sort may be propagated by Cuttings, which should be planted in *April* or *May*, upon a shady Border, and duly watered in dry Weather, until they have taken Root; and, at *Michaelmas*, they will be fit to transplant where they are to remain: this will live in the open Air, and never is injured by the Cold of our ordinary Winters; but severe Frost will sometimes destroy them.

BALAUSTIA. *Vide Punica.*

BALAUSTIUM is the Cup of the Flower of the wild Pomgrate.

BALLOTE, Stinking black Horehound.

The Characters are;

It hath Leaves like the Dead-nettle: the Flowers are produced in Bunches at the Joints of the Stalks, from the Pedicle of the Leaves, which have one single Footstalk, and stand but on one Side of the Stalk: the

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Cup of the Flower is tubulous, and hath five Angles, divided into five Segments at the Top: the Galea or Crest of the Flower is hollow, and the Beard is cut into three Parts, the middle Part being broad, and shaped like an Heart: each Flower is succeeded by four naked Seeds.

We have two Varieties of this Plant growing wild in *England*; which are,

1. **BALLOTE.** *Matth. 825. Marubium nigrum, five Ballote. J. B.* The stinking black Horehound.

2. **BALLOTE** *flore albo. Tourn.* Stinking black Horehound, with white Flowers.

The first of these Plants is common upon moist dry Banks near *London*, and is seldom suffered to have a Place in Gardens: but this being a Plant sometimes used in Physic, I thought proper to mention it in this Place: it may be easily propagated by either Seeds or Roots; but is very apt to increase too fast in a Garden. This is the common black Horehound of the Shops. The second Sort is a Variety of the first, which is sometimes found with the other wild.

BALM. *Vide Melissa.*

BALSAMINA, The Female Balsamine, or Balsamine.

The Characters are;

It hath an anomalous Flower, which consists of an unequal Number of Leaves, having sometimes two, three, four, six, or more Leaves, with a Calcar or Spur to the Flower: these Flowers are succeeded by turbinated Vessels, resembling Pods, which, when ripe, upon the first Touch, burst, and cast forth several roundish Seeds.

The Species are;

1. **BALSAMINA** *lutea, five Noli me tangere. C. B.* The yellow Balsamine, or Touch-me-not.

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2. *BALSAMINA fœmina, flore purpureo.* The Female Balsamine, with purple Flowers.

3. *BALSAMINA fœmina, flore candido.* H. L. The white Female Balsamine.

4. *BALSAMINA fœmina, flore rubro.* H. L. The red Female Balsamine.

5. *BALSAMINA fœmina, flore majori candido.* Tourn. The large white-flowered Balsamine.

6. *BALSAMINA fœmina, flore majori specioso.* Tourn. The large specious-flowered Female Balsamine.

7. *BALSAMINA fœmina, flore partim candido, partim purpureo.* The purple and white-striped Balsamine.

8. *BALSAMINA fœmina, flore majori, elegantissime variegato.* The large-flowered striped Balsamine.

9. *BALSAMINA fœmina, flore majori pleno, elegantissime variegato.* The double large flowered striped Balsamine, or Immortal Eagle-flower.

The first of these Species is preserved in Gardens, for the Diversion it affords, when the Seed-vessels are ripe, by desiring ignorant Persons to gather them, who are surpris'd to find, upon the first Touch, that the Pods fly to Pieces in their Hands: this Plant is very hardy in respect to Cold; and, altho' it is annual, yet, if suffered to cast its Seeds, will come up every Spring without any Care: it delights best in moist shady Places, where, if it is not rooted out, it will multiply fast enough.

The other Sorts are commonly raised on Hot-beds in the Spring, and afterwards planted into Pots or Borders, to adorn Court-yards and Parterres. The second, third, and fourth Sorts will come up in the common Ground, without any artificial Heat, and make stronger Plants than when raised in an Hot-bed, and

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stand longer in Flower; but the four last-mentioned Sorts are much tenderer, and must be raised on an Hot-bed, and afterward planted in Pots, and set into a fresh Hot-bed to bring them forward, especially the last Sort which otherwise will not flower soon enough to produce ripe Seeds. There are two different Kinds of this large double-flowered Balsamine: one is brought from the *West-Indies*, by the Name of the Cockspur: this is very apt to produce large strong Plants, but rarely begins to flower till the End of the Summer, and then very often hath but small Quantities of Flowers, and seldom produces ripe Seeds in *England*.

The other Sort is brought from *China*, by the Name of Immortal Eagle-flower: this Plant produces large beautiful Flowers, in great Quantities; and is one of the finest annual Plants we have, continuing a long time in Flower, especially if sheltered from the Violence of Wind and Rain, both of which are great Enemies to this Plant: this Sort also ripens Seeds very well; but is apt to degenerate in a few Years with us to single Flowers, and plain Colours, if great Care is not taken in saving the Seeds from the finest-striped Flowers.

These Plants must be taken great Care of while young, and in the Hot-bed, particularly to give them as much free Air as possible, to prevent their running up too slender; nor must they have much Water, which often rots them at Bottom, near the Surface of the Ground.

When you put these Plants into Pots, observe to choose such as have clear spotted Stems, which always produce striped Flowers; and those with greenish Stems, white Flowers; and the red Stems, red Flowers:

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so that if you have Plants enough, you need only take the striped ones; and, in order to preserve them from degenerating, you should take off all single or plain-colour'd Flowers from your Plants, and not suffer them to seed; by which means you will preserve this beautiful Plant many Years longer than you otherwise could.

The Seeds of this beautiful Kind should not be sown till the Middle or Latter-end of *March*; for, if they are sown too soon, and the Weather should prove cold and dark, as that a good Quantity of Air cannot be admitted every Day to the Plants, they will draw up too weak for their Stems to support their Heads, when they are in Flower; nor will the Plants produce near so many Flowers, as when they have strong Stems, and have a large Share of Air. The Plants sown the End of *March*, when properly managed, will flower by the Beginning of *June*, and will be early enough to produce ripe Seeds.

BALSAMITA, *Costus Hortorum*, or Costmary.

The Characters are;

It hath a discous Flower, composed of Florets, which are Hermaphrodite, have naked Heads, and are placed on a smooth even Placenta: the Empalement of the Flowers is scaly: to these Notes may be added, The Flowers growing on the Top of the Stalks, and the Leaves being intire.

The Species are;

1. **BALSAMITA major**. *Dod.* The large Costmary.

2. **BALSAMITA foliis agerati**. *Vaill. Mem. Acad. R. Scien.* Costmary with Maudlin-leaves.

3. **BALSAMITA conyzæ folio, flore cernuo**. *Vaill. Mem. Acad. R. S.* Costmary with a Fleabane-leaf.

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The first Sort was formerly in greater Request than it is at present; many People were fond of it in Soups, with other Herbs; and its Use in Medicine is, at present, but small: however, as it hath been an old Garden-herb, I thought proper to mention it in this Place.

This Plant increases very fast at the Root, and will grow in almost any Soil or Situation: therefore, whoever have a mind to propagate it, need only plant a few Slips in the Spring or Autumn, in any common Border, and they will soon be furnish'd with enough of it.

The second and third Sorts are very low annual Plants: the Seeds of both these Sorts should be sown in the Beginning of *April*, on a Bed of light Earth; and, if the Season should prove dry, they must have frequent Waterings, otherwise the Seeds will not grow. When the Plants are come up pretty strong, a few of each may be potted, and placed in a warm Situation, and frequently watered; where they will ripen their Seeds in *August*; which should be gathered as soon as they are ripe; for they soon scatter. The Flowers of the second Sort turn downward as they begin to decay, and continue in this Position till their Seeds are perfected; when they raise their Heads again, to scatter their Seeds. I have frequently had the Seeds of this Sort remain in the Ground two or three Years; and, afterward, the Plants have come up very well. There is little Beauty in these Plants; but they are preserved for Variety.

BAMIA MOSCHATA. *Vide* Ketmia

BANANA. *Vide* Musa.

BARBA CAPRÆ. *Vide* Ulmaria.

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BARBA JOVIS, Jupiter's Beard,
or Silver bush.

The Characters are;

It hath pennated or winged Leaves; the Flowers are papilionaceous, and are succeeded by short oval Pods; in which is, for the most part, contained one roundish Seed.

The Species are;

1. *BARBA Jovis, pulchre lucens, J. B.* The Silver-bush, *vulgo.*

2. *BARBA Jovis Hispanica incana, flore luteo. Tourn.* Spanish Jupiter's Beard.

3. *BARBA Jovis Caroliniana arborescens, pseudoacaciae foliis.* Bastard Indigo *Incolis. Rand. Act. Phil. N. 407.* Bastard Indigo, or Carolina Barba Jovis.

4. *BARBA Jovis Africana, foliis viridibus pinnatis, flore caeruleo. Boerb. Ind.* The African Jupiter's Beard, with deep-green Leaves, and blue Flowers.

5. *BARBA Jovis Græca, linariae folio argenteo ampliori, flore luteo parvo. Tourn. Cor.* Greek Jupiter's Beard, with a silver Toad-flax-leaf, and small yellow Flowers.

6. *BARBA Jovis Americana annua humilis ramifissima, floribus spicatis caeruleis.* Dwarf annual American Jupiter's Beard, with blue Flowers growing in a Spike.

7. *BARBA Jovis Americana scandens, floribus caeruleis ex alis foliorum conglobatis.* Climbing American Jupiter's Beard, with blue Flowers coming out of the Wings of the Leaves.

8. *BARBA Jovis Americana humilis, rotundifolia & villosa, flore vario. Houst.* Dwarf American Jupiter's Beard, with round hairy Leaves, and a variable Flower.

9. *BARBA Jovis Cretica frutescens incana, flore spicato purpureo amplo. Breyn. Prod. 2.* Shrubby Jupiter's Beard of Crete, with white

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Leaves, and large purple Flowers growing in a Spike.

The first of these Plants is very common in many Gardens; the second is, at present, more rare with us; the third Sort was raised from Seeds sent from Carolina, by Mr. Catesby; and is, by the Inhabitants, made into a coarse Sort of Indigo. This grows to a large Shrub, and will resist the Cold, in the open Air, very well: it is also a beautiful flowering Shrub, and, for Diversity, merits a Place in Quarters of curious flowering Trees. This Plant will sometimes produce ripe Seeds; by which means, it may be easily propagated; and will also take Root by laying down the Branches in the Spring; which, by the next Spring, will be fit to transplant out. It delights in a light Soil, and must have room to spread its Branches, which extend a considerable Distance from the Stem; so that it grows very irregular. This Tree is very subject to split, if exposed to strong Winds.

The fourth Sort may be preserved, with the first and second, in a common Green-house: they are not very tender, but require much free Air in good Weather, and frequent Waterings. They are all propagated by Seeds, which should be sown on an Hot-bed in the Spring, and transplanted into Pots of good light Earth, and housed in Winter, with Myrtles, &c. and have a good Effect in adding to the Diversity of the Green-house. These Plants will sometimes take Root from Cuttings; but, as 'tis difficult to obtain Plants this Way, and the Seeds sometimes ripen very well with us, I would recommend the raising them that way, as the most sure and expeditious.

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The fifth and ninth Sorts are Natives in the *Archipelago*: the Seeds of these were brought by Dr. *Tournefort* to the Royal Garden at *Paris*, from whence they have been distributed to several of the *European* Gardens: these may be propagated in the same manner as the first Sort, and require the same Culture; but the Seeds of these Sorts are rarely perfected in *England*.

The sixth Sort is an annual Plant, which was discovered by Dr. *William Houstoun* at *Campechy*. This is only propagated by Seeds, which must be sown very early in the Spring on a good Hot-bed; and, when the Plants are come up two Inches high, they should be each transplanted into a small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark; observing to water and shade them until they have taken Root: after which time, they should have Air and Water in proportion to the Heat of the Season. In *July* these Plants will flower; and if the Plants are preserved either in the Stove, or under Glasses, they will perfect their Seeds in *September*; and soon after they will decay.

The seventh and eighth Sorts may be propagated from Seeds, which must be sown as hath been before directed for the sixth; but these are abiding Plants, which must be plac'd in the Stove amongst other *American* Plants, and will produce their Flowers every Year; but they seldom produce Seeds in *Europe*.

BARBAREA, or Winter-crefs. *Vide* *Sisymbrium*.

BARDANA, Burdock. *Vide* *Lappa*.

BARLERIA.

This Name was given to this Genus of Plants by Father *Plumier*, in Honour of *Jacobus Barlier*, of

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Paris, who was a famous Botanist. We have no *English* Name for it; but the Inhabitants of the Island of *Jamaica* call it Snap-dragon.

The Characters are;

It hath a personated Flower, consisting of one Leaf; whose Upper-lip or Crest is erect; but the under is divided into three Parts; from whose Empalement rises the Pointal in the Hinder-part of the Flower, which afterward becomes a quadrangular oblong membranous Fruit, with one Capsule, in which are lodged flat roundish Seeds.

The Species are;

1. *BARLERIA solani folio, flore coccinco. Plum. Nov. Gen.* Barleria with a Nightshade-leaf, and a scarlet Flower.

2. *BARLERIA aculeata, solani folio angustiore, flore cœruleo. Plum. Nov. Gen.* Prickly Barleria, with a narrow Nightshade-leaf, and a blue Flower.

The first of these Plants is very common in *Jamaica*, and several other Parts of the *West-Indies*; but, at present, it is very rare in *England*. It grows to the Height of three or four Feet, and divides into many slender Branches, which are hoary. On the Top of the Branches come out the Flowers; which are of a fine red Colour, and shaped like those of the *Antirrhinum*, or *Calves-foot*: these Flowers are succeeded by quadrangular Seed-vessels, which are about an Inch long, and contain a great Number of flat brown Seeds. These Seeds, when ripe, are cast out with Violence, on their Vessels being touched.

The second Sort is less common in *Jamaica* than the first; but it grows in great Plenty on some of the *French* Islands in *America*. This arises not above two Feet high; the Leaves are narrower than those of

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the former Sort, and the Flowers are of a fine blue Colour.

The Flowers of these Plants are very fugacious, seldom continuing open half a Day: they commonly appear in the Morning; but when the Sun grows strong, they are soon closed, or fall away, so that there is little Beauty in them; and the Seeds, when ripe, upon touching the Pods, are thrown out with great Elasticity: therefore there must be Caution used in the gathering of them.

These Plants are propagated by Seeds, which must be sown upon a good Hot-bed, in the Spring; and the Plants must be preserved in the Bark-stove; for if they are exposed to the open Air in Summer, they will never produce either Flowers or Seeds; and the first Cold of Autumn will destroy the Plants: but when they are placed in the Tan-bed, they should have a large Share of Air in warm Weather, otherwise they are subject to draw up weak, and appear of a sickly Complexion.

BASELLA, or Climbing Nightshade from Malabar.

The Characters are;

It hath an annual Root: the Stalks are climbing; the Leaves are round, thick, and succulent: from the Foot-stalk of the Leaves are produc'd Spikes of Flowers, which are Male and Female, in different Parts of the Spike: the Female Flowers are succeeded by flat Berries, in each of which is contained one hard Seed.

The Species are;

1. **BASELLA**. Hort. Mal.

2. **BASELLA** flore albo, caule & foliis pallide virentibus. Climbing Nightshade from Malabar, with white Flowers, and pale green Stalks and Leaves.

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3. **BASELLA Sinica**, foliis & caulis viridibus, minus succulentis, fructu minori. Juss. Climbing Indian Nightshade, with green Stalks and Leaves, which are less succulent, and a small Fruit.

These Plants must be sown early in the Spring, upon an Hot-bed; and when they come up, must be planted into Pots of good fresh Earth, and set into a fresh Hot-bed, in order to bring them forward; and when grown too high to be contained under the Glasses, may be set into the Green house, or in some well-defended Part of the Garden, that they may ripen their Seeds. There is no great Beauty in the Flower; but, for the singular Appearance of these Plants, they deserve a Place in all curious Collections of Plants.

The first has thick strong succulent Stalks and Leaves, which are of a deep-purple Colour. The Plant requires to be supported; for it will climb to the Height of eight or ten Feet, and produce a great Number of Side-branches, which will twist round Stakes, and climb to a great Height, provided the Plants are preserved in the Stove; for if they are exposed to the open Air, they will not grow very large, nor will they perfect their Seeds, except it be in very warm Seasons; but if they are placed in the Bark-stove, they will often live thro' the Winter, and produce great Quantities of Flowers and Seeds. The Flowers of this Plant have no great Beauty; but the Plant is preserved for the odd Appearance of the Stalks and Leaves.

The second Sort is exactly the same as the common Sort, excepting the Colour of the Leaves, Stalks, and Flowers; but I have observed

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it constantly retains the same Colour, so that I don't believe it to be an accidental Variety from Seeds: for from all the Seeds which I have sown, I never found any one of the Plants which differ'd from the Parent-plant.

The third Sort is less common in England than either of the former. I received the Seeds of this Plant from Dr. *Jussieu* of *Paris*, from which I have obtained a Variety with variegated Stalks and Leaves. This Sort will not perfect its Seeds so soon as either of the former Sorts; so must be placed in the Stove, where it will continue through the Winter, and produce ripe Seeds the second Year. All these Sorts may be propagated by Cuttings, which should be laid to dry a Day or two after they are taken from the Plants, before they are planted, that the Wound may heal, otherwise they will rot. These Cuttings must be planted into Pots filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark, where they will take Root in a Fortnight or three Weeks time, when they should be treated in the same manner as the seedling Plants.

All these Plants will climb to a considerable Height, and send forth a great Number of Branches, so that they should have a Place near the Back of the Stove, where they may be trained up to a Trellise, or fastened to the Back of the Stove, otherwise they will twist themselves about whatever Plants stand near them; which will make a very disagreeable Appearance in a Stove, and also be very injurious to the other Plants; whereas, when they are regularly trained to a Trellise, they will have a good Effect in adding to the Variety.

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From the Berries of the two first Sorts I have seen a beautiful Colour drawn; but, when used for painting, did not continue very long, but chang'd to a pale Colour; though I believe there might be a Method invented, whereby this beautiful Colour might be fixed, so as to become very useful; for I have been assured, that the Juice of these Berries has been used for staining of Callicoes in India.

BASILICUM, or Basil. *Vide* Ocymum.

BAUHINIA, Mountain Ebony, *vulgo*. This Plant was so named by Father *Plumier*, in Honour of the two famous Botanists, *John* and *Caspar Baubin*.

The Characters are;

It hath a polypetalous anomalous Flower, consisting of five or more Leaves, which are disposed on one Side: from the Flower-cup arises the incurved Pointal, accompanied with several Stamina of the same Form, which afterward becomes a Pod, inclosing kidney-shaped Seeds.

The Species are;

1. **BAUHINIA non aculeata**, folio ampliori & bicorni. *Plum. N. Gen.* Mountain Ebony, *vulgo*.

2. **BAUHINIA aculeata**, folio rotundo emarginato. *Plum. N. Gen.* The Indian Savin-tree.

3. **BAUHINIA aculeata**, folio rotundo emarginato, flore magno albo. *Houft.* Bauhinia with round Leaves, and large white Flowers.

4. **BAUHINIA flore luteo spicato**, folio subrotundo bicorni. *Houft.* Bauhinia with yellow Flowers growing in Spikes, and round Leaves.

5. **BAUHINIA non aculeata**, folio subrotundo bicorni, floribus albis. *Houft.* Bauhinia without Thorns, having round Leaves, and white Flowers.

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6. *BAUHINIA maxima spinosa, folio subrotundo bicorni.* Greatest prickly Bauhinia, with round Leaves.

7. *BAUHINIA scandens & frutescens, folio subrotundo & bicorni, flore albo.* Shrubby climbing Bauhinia, with a round divided Leaf, and a white Flower.

The first Plant grows very plentifully on the Hills in every Part of the Island of *Jamaica*; it is also a Native of the *East-Indies*, and is well figured and described in the *Hortus Malabaricus*. It grows to the Height of sixteen or eighteen Feet, and produces Clusters of party-colour'd Flowers at the Extremity of the Branches, which are succeeded by long flat Pods, in each of which are contained four or five Seeds.

The Wood of this Tree being very hard, the Inhabitants of the *West-Indies* have given it the Name of Mountain Ebony.

The second Sort grows plentifully in the Low-lands of *Jamaica*, and in several other Parts of the *West* and *East-Indies*: this is also well figured and described in the *Hortus Malabaricus*: it grows to the Height of fifteen or sixteen Feet, and produces large Spikes of beautiful yellow Flowers at the End of the Branches. The whole Plant, if bruised, emits a strong Scent, somewhat like Savin; from whence the Inhabitants of the *West-Indies* have given it the Name of *Indian Savin-tree*.

The third, fourth, and fifth Sorts grow at *Carthagera*, from whence I received Specimens of these Plants, collected by the late Dr. *William Houstoun*.

The sixth and seventh Sorts were discovered by Mr. *Robert Millar* at *Panama*, from whence he sent Specimens and Seeds of these Plants.

These Plants are only propagated from Seeds, which may be easily

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procured from the *West-Indies*, which should be sown on an Hot-bed early in the Spring; and when the Plants are come up two or three Inches high, they should be transplanted each into a separate small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to water and shade them, until they have taken Root; after which they must have Air and Water in proportion to the Warmth of the Season, and the Bed in which they are placed.

As these Plants increase in Strength, so they will become more hardy, and may be preserved with a moderate Share of Warmth; but they are not hardy enough to live in a Greenhouse without some Fire: and, as they do not grow very fast, they must not be put into large Pots; for they do not spread much at their Roots.

The third Sort is worthy of a Place in a Stove, where other Exotic Plants are maintained, for its long Continuance in Flower, and beginning to flower while young. These Plants commonly produce Flowers the second Year from their rising from Seeds, and continue at least six Months flowering; so that from *March* to *October* they are seldom destitute of Flowers.

The second Sort is also a very beautiful Plant when in Flower; but this is commonly six or seven Years old before it produces any Flowers, nor does it continue above three Weeks or a Month in Flower. These are both of them tender while young; so must be preserved in the warmest Stove; but, when they are two or three Years old, they will live in a moderate Warmth, and, in very warm Weather, may be placed in the open Air, in a well-sheltered Situation.

BAY. *Vide Laurus.*

BEANS. *Vide Faba.*

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KIDNEY or FRENCH-BEANS. *Vide* Phaseolus.

BEAN-TREFOIL. *Vide* Cytisus.

BEAR's-EAR. *Vide* Auricula.

BEAR's-EAR SANICLE. *Vide* Verbascum.

BEAR's-FOOT. *Vide* Hel-leborus.

BEE, or GNAT-FLOWER. *Vide* Orchis.

BEECH-TREE. *Vide* Fagus.

BELL-FLOWER. *Vide* Campanula.

BELLADONA, Deadly Nightshade.

The Characters are;

It hath a bell-shaped Flower, consisting of one Leaf, which is divided into five acute Segments at the Top: each of these Flowers is succeeded by a globular soft Fruit, which is divided into two Cells, in which are lodged the Seeds.

The Species are;

1. BELLADONA *majoribus foliis & floribus.* Tourn. The common Deadly Nightshade.

2. BELLADONA *minoribus foliis & floribus.* Tourn. Deadly Nightshade with smaller Leaves and Flowers.

3. BELLADONA *frutescens rotundifolia Hispanica.* Tourn. Shrubby Spanish Deadly Nightshade, with a round Leaf.

4. BELLADONA *Americana frutescens, flore albo, nicotianæ folio.* Plum. Cat. Shrubby American Deadly Nightshade, with a white Flower, and a Tobacco-leaf.

5. BELLADONA *Americana herbacea, foliis Cirsææ latioribus, flore albo.* American herbaceous Deadly Nightshade, with broad Inchanters-nightshade-leaves, and a white Flower.

The first Sort grows very common in many Parts of England about

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Farmers Yards, and in shady Lanes; but is never kept in Gardens, unless in those of Botanists; nor indeed should it be suffered to grow in any Places where Children resort; for it is a strong Poison; and there have been several Instances, within a few Years past, of its deadly Quality, by several Children being killed with eating the Berries, which are of a fine black Colour, and about the Size of a black Cherry, and not unpleasant to the Taste.

Mr. Ray gives a good Account of the various Symptoms it produces, by what happened to a Mendicant Frier, upon his drinking a Glass of Mallow-wine, in which this Plant was infused: in a short time he became delirious; soon after was seized with a grinning Laughter; after that, several irregular Motions, and, at last, a real Madness, succeeded, and such a Stupidity as those that are fottishly drunk have; which, after all, was cured by a Draught of Vinegar.

There is also an Instance of the direful Effects of this Plant recorded in Buchanan's History of Scotland, wherein he gives an Account of the Destruction of the Army of Sweno, when he invaded Scotland, by mixing a Quantity of the Juice of these Berries with the Drink which the Scots by their Truce were to supply them with; which so intoxicated the Danes, that the Scots fell upon them in their Sleep, and killed the greatest Part of them, so that there were scarcely Men enough left to carry off their King.

The second Sort is not so common in England as the first; but is preserved in Botanic Gardens for Variety.

These Plants are both easily cultivated, by sowing of their Seeds in the Spring on any Soil, or in any Situation;

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tuation; and, when the Plants are come up, they may be transplanted into an abject Part of the Garden, where, if they are suffered to remain, and drop their Fruit, they will fill the Ground with young Plants, and the old Roots will continue several Years. I have frequently seen these Plants growing out of the Joints of Walls, where they have endured the severest Frost, and the greatest Drought, for several Years: they also grow equally well in low moist Soils; so that there is no Danger of their succeeding in any Place. The green Herb of these Plants is sometimes used in cooling Ointments, as a Substitute for the Garden Nightshade, which, being an annual Plant, is not to be had so early in the Season as the other Herbs used in these Ointments, when the Belladonna, being in Perfection, is by many used.

The shrubby *Spanish* Kind is preserved by the Curious in Botany, for the sake of Variety; but there is very little Beauty in it. This will grow to the Height of 8 or 10 Feet, and have a strong woody Stem. It may be propagated by planting the Cuttings in the Spring, upon a moderate Hot-bed, observing to water and shade them until they have taken Root; after which time they must be inured to the open Air by degrees, and then they must be carefully potted, and placed in the Shade until they have taken new Root, when they may be set abroad with Myrtles, Oleanders, &c. and in Winter it must be removed into the Green-house, and placed among the hardier Kinds of Exotics. This Plant produces Flowers every Year; but I have not observed any Fruit produced in *England*.

The fourth Sort was discovered

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by Father *Plumier* in the *French* Settlements in *America*; it hath also been found by Mr. *R. Millar*, Surgeon, in the *Spanish West-Indies*; from whom I received the Seeds of this Plant. It is propagated by Seeds, which should be sown in Pots filled with light rich Earth, and plunged into an Hot-bed of Tanners Bark: when the Plants are come up an Inch high, they should be carefully transplanted, each into a separate small Pot, and plunged into the Hot-bed again, observing to water and shade them until they have taken Root. During the Summer-season they may remain in these Hot-beds; but in Winter they must be removed into the Bark-stove, where, if they are kept in a temperate Degree of Heat, they will thrive extremely well, and produce their Flowers.

The Seeds of the fifth Sort were sent from *Carthagena*, by Mr. *Robert Millar*, Surgeon, which have succeeded in several Gardens where they were sown. This Plant is tender; so must be constantly kept in the Stove, and must be frequently watered, being a very thirsty Plant: it usually grows to the Height of two Feet or more, and produces plenty of Flowers every Summer; but has not produced any Fruit in this Country, to my Knowledge: it may be easily propagated by parting of the Roots in *April*; but as it is a Plant of no Beauty or Use, it is only preserved in a few Gardens, for Variety-sake.

BELLIS, The Daisy.

The Characters are;

It hath a perennial Root: the Stalks are naked, and never branch out: the Calyx (or Cup) of the Flower is scaly and simple, divided into many Segments, almost to the Footstalk: the Flowers are radiated: and the Heads,
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after the Petals are fallen off; resemble obtuse Cones.

The Species are;

1. *BELLIS sylvestris minor*. C. B. The common small Daisy.

2. *BELLIS sylvestris minor*, flore misto. C. B. The small striped Daisy.

3. *BELLIS hortensis*, flore pleno, magno vel parvo, rubro. C. B. The red Garden Daisy, with double Flowers.

4. *BELLIS hortensis*, flore pleno, magno vel parvo, albo. C. B. The white double Garden Daisy.

5. *BELLIS hortensis*, flore pleno, magno vel parvo, varie ex candido & rubro. C. B. The double-striped Garden Daisy.

6. *BELLIS hortensis prolifera*. C. B. The Garden childing Daisy, commonly called, The Hen-and-chicken Daisy.

7. *BELLIS hortensis*, flore pleno albo, in formam cristæ galli figurato. The white Cockscorn Daisy.

8. *BELLIS hortensis*, flore pleno rubro, in formam cristæ galli figurato. Boerb. Ind. The red Cockscorn Daisy.

The first and second Sorts are very common in the Meadows, almost in every Part of England: they are used indifferently in Medicine, being the same in all respects, except the Colour of the Flowers. This is also called *Consolida minima*, or the least Consound.

The different Varieties of the Garden Daies are propagated by parting their Roots in Autumn, and should be planted in Borders of strong Earth, which are exposed to the East: for the great Heats in Summer are very subject to destroy these Plants, if they are too much expos'd thereto. These Plants are pretty Ornaments to a Garden in the Spring of the Year, and may be planted for Edgings in large rural Walks in

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Wildernesses, where the Soil is poor, which will prevent their spreading too much; but in Parterre-gardens they should only be planted in single Roots in shady Borders, and every Year transplanted and parted, which will preserve them in their Colours, and keep them within Compass, otherwise they are very apt to degenerate.

BELLIS MAJOR. Vide *Leucanthemum*.

BELLONIA.

The Characters are;

It hath a wheel-shaped Flower, consisting of one Leaf, and divided at the Top into several Parts; from whose Cup arises the Pointal, fixed in the Middle of the Flower like a Nail: the Flower-cup afterward becomes an hard oval-pointed Fruit, in which are contained many small Seeds.

We have but one Species of this Plant; viz.

BELLONIA frutescens, folio melissæ aspero. Plum. Nov. Gen. Shrubby Bellonia, with a rough Balm-leaf.

This Plant is very common in several Parts of America, from whence I have received the Seeds; which were collected by the late Dr. William Houstoun.

It is propagated by Seeds, which should be sown early in the Spring, in a Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to water it frequently, as the Earth appears dry; but you must be careful not to wash the Seeds out of the Ground. When the Plants are come up half an Inch high, they should be carefully transplanted into Pots filled with fresh light Earth, and plunged into the Hot-bed again, observing to water and shade them until they have taken Root; after which time they should have Air admitted to them every Day, when the Weather is warm; and

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and they must be frequently water'd. In this Bed the Plants may remain during the Summer-season, provided the Glasses will admit of them to stand under them without pressing their Tops: at *Michaelmas* the Plants should be placed in the Stove, where they should be frequently watered during the Winter; but the Water should be given moderately at this Season: the Stove in which these Plants are placed should be kept to temperate Heat, which is more agreeable to these Plants than a greater Warmth at that Season: the second Year these Plants will sometimes flower; but they rarely produce good Seeds in this Climate; however, they may be propagated by Cuttings in the Summer-months, provided they are planted in light Earth on a moderate Hot-bed, and carefully watered and shaded until they have taken Root. These Plants must be constantly kept in the Stove, and should have a large Share of free Air in warm Weather; but if they are set abroad, they will not thrive in this Climate.

BELVEDERE. *Vide* Chenopodium.

BENZOIN, The Benjamin-tree. *Vide* Laurus.

BERBERIS, The Barberry or Piperidge-bush.

The Characters are;

It is set with sharp Prickles: the Leaves are oblong, and serrated on the Edges: the Flowers consist of six Leaves, which expand in form of a Rose, and are of a yellow Colour: the Fruit is long, of an acid Taste, and, for the most part, of a red Colour, and grows in Clusters hanging down: the Bark of the Tree is yellow.

The Species are;

1. BERBERIS *dumetorum*. C.B. The common Barberry.

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2. BERBERIS *sine nucleo*. C.B. Barberry without Stone.

3. BERBERIS *latissimo folio*, *Canadensis*. H. R. P. The broad-leav'd Canada Barberry.

4. BARBERIS *fructu albo*. The white Barberry.

The first of these Sorts is very common in *England*, being often planted for Hedges; but the best Method to have large good Fruit is, to plant them eight or ten Feet asunder, keeping their Middles thin, and free from dead Wood; but their Fruit being for the most part produced toward the Extremity of their Branches, you should be sparing in shortening them; and when this is done, it should be at *Michaelmas*, when their Leaves begin to decay.

The second Sort I believe to be only an accidental Variety of the first; for young Plants taken from old Trees, which produce Fruits without Stones, are rarely found to prove right; and it hath been observed, that none but old Trees produce their Fruits so; nor are all the Fruits upon the same Tree without Stones. That Sort with white Fruit seems not to differ from the common, except in the Colour of the Fruit.

The *Canada* Barberry hath been of late Years introduc'd amongst us. The Leaves of this Tree are larger than those of the common Sort; and the Fruit of this Sort is black when ripe; but I have not seen any produc'd in *England*, although the Tree is equally as hardy as the common Sort.

These are all propagated from Suckers taken from Roots of the old Plants, which generally furnish them in abundance; or they may be raised from Seeds, or by laying down their Branches, which will in one Year take

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take sufficient Root to be transplanted: they delight in a strong loamy Soil, and may be planted either in October or February.

BERMUDIANA.

The Characters are ;

It hath a Lily-flower, composed of six Petals, whose Empalement becomes a triangular Fruit, which opens in three Parts, and is divided into three Cells, which are filled with roundish Seeds.

The Species are ;

1. BERMUDIANA *Iridis folio, fibrosa radice.* Tourn. Bermudiana with a Fleur-de-lys-leaf, and a fibrous Root.

2. BERMUDIANA *palmae folio, radice bulbosa.* D. Ling. Tourn. Bermudiana with a Palm-leaf, and a bulbous Root.

3. BERMUDIANA *graminea, flore minore caeruleo.* Hort. Elth. Grass-leav'd Bermudiana, with a small blue Flower.

The first Sort is hardy enough to endure the Cold of the ordinary Winters in the open Air, if it is planted on a dry Soil, and in a warm Situation ; but as it may be destroyed by severe Winters, a Plant or two should be kept in Pots, and sheltered in Winter, to preserve the Kind : this Sort may be propagated by Seeds, which should be sown in March, upon a Border exposed to the Sun : the Plants will come up in May, and require no other Care but to keep them clean from Weeds : at Michaelmas they may be transplanted where they are to remain ; the following Summer they will produce Flowers and Seeds.

The third Sort is not quite so hardy as the first, though in very mild Winters I have had it live in the open Air ; but it will be best to shelter this in Winter, under a common Hot-bed frame, where they may en-

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joy the free Air in mild Weather : this will produce Flowers and Seeds every Year as the first : both these Sorts may also be propagated by parting of their Roots : the best time for doing of this is about Michaelmas.

The second Sort never produces any Seeds in England ; so can be only propagated by Off-sets. This has a bulbous Root about the Size of the Corn-flag ; but is not so flat : the Leaves of this Plant die off in Winter, and in the Spring there are new ones put forth. This Plant is much tenderer than the former, and requires a Stove to preserve it thro' the Winter : in Summer the Pots should be placed in a Bark-bed, otherwise the Plants will not produce Flowers in this Country : in Winter they should have very little Water given to them ; for Wet will soon rot the Roots when their Leaves are decayed. There is no great Beauty in either of these Plants ; but they are preserved by the Curious, for Variety-sake.

BERNARDIA.

The Characters are ;

It is Male and Female. in different Plants : the male Plants produce small Katkins, which, when ripe, fall off ; the female Plants have apetalous Flowers, which are succeeded by tri-coccous Fruits, resembling those of the Ricinus.

The Species are ;

1. BERNARDIA *frutescens erecta, carpini folio, mas.* Houst. Male upright shrubby Bernardia, with an Horn-beam-leaf.

2. BERNARDIA *frutescens erecta, carpini folio, faemina.* Houst. Female upright shrubby Bernardia, with an Horn beam-leaf.

3. BERNARDIA *fruticosa maritima repens, foliis subrotundis & subtus argenteis, mas.* Houst. Male creeping

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ing shrubby *Bernardia*, with roundish Leaves, which are of a Silver-colour underneath.

4. *BERNARDIA fruticosa maritima repens, foliis subrotundis & subtus argenteis, fœmina. Houst.* Female creeping shrubby *Bernardia*, with roundish Leaves, which are of a Silver-colour underneath.

The two first Sorts were found by Dr. *Houfoun* in *Jamaica*, where they are in great Plenty near the Sea, and generally grow near each other; so that where-ever a female Tree is found, there is rarely a Male wanting near it. These usually grow to the Height of eight or ten Feet, and divide into many Branches: the Flowers are produced at the Joints, near the Footstalks of the Leaves.

The other two Sorts were found by Dr. *Houfoun*, at *La Vera Cruz*, where they grow on the Shore upon the Sand-banks: these seldom rise above a Foot high, having many trailing Branches, which send forth Roots from their Joints, whereby they propagate themselves.

These Plants may be obtain'd from Seeds, which should be brought over soon after they are ripe, and sown in Pots filled with light fresh Earth, and plunged into a moderate Hot-bed of Tanners Bark, observing frequently to water them: when the Plants are come up, they should be carefully transplanted into separate Pots filled with light fresh Earth, and plunged into the Hot-bed again, observing to water and shade them until they have taken Root; after which time they should have Air and Water in proportion to the Warmth of the Season, and the Heat of the Bed in which they are placed: in Summer they should have a large Share of fresh Air in warm Weather, and should be frequently watered; but, in Winter, they must be placed

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in a Stove, where they should be kept in a moderate Heat, and must be frequently watered; but it should not be given to them in large Quantities at that Season. With this Management these Plants will thrive extremely well, and will produce their Flowers in this Climate; but they will rarely perfect their Seeds in this Country: they may be propagated by Cuttings, or laying down their tender Branches in the Spring; which, if duly watered, will take Root in three Months; when they may be cut off from the old Plants, and treated as those raised from Seeds.

BESLERIA.

The Characters are;

It hath a Flower consisting of one Leaf, which is tubulous, and of an anomalous or personated Figure, having two Lips; from whose Cup arises the Pointal, which is fixed like a Nail in the hinder Part of the Flower, which after-ward becomes a soft fleshy oval shaped Fruit, in which are many small Seeds.

The Species are;

1. *BESLERIA melissæ Tragi facie. Plum. Nov. Gen.* *Besleria* with the Face of *Tragus's* Balm.

2. *BESLERIA virgæ aureæ foliis, flore luteo, minor. Plum. Nov. Gen.* *Besleria* with Golden rod-leaves, and a small yellow Flower.

3. *BESLERIA virgæ aureæ foliis, flore luteo, major. Plum. Nov. Gen.* *Besleria* with Golden-rod-leaves, and a large yellow Flower.

4. *BESLERIA scandens cristata, fructu nigro. Plum. Nov. Gen.* Climbing *Besleria*, with a black Fruit.

These four Plants are common in the warm Parts of *America*, from whence the Seeds have been brought into *Europe*, and have been cultivated in some curious Botanic Gardens. These Seeds should be sown

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on an Hot-bed early in the Spring, and when the Plants are come up half an Inch high, they should be each transplanted into a small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to water and shade them until they have taken Root. When the Plants have filled these small Pots with their Roots, they should be shaken out of them, and their Roots trimmed, and then put into larger Pots filled with fresh light Earth, and plunged into the Hot-bed again; where they should have a large Share of fresh Air in warm Weather, and must be frequently watered.

With this Management these Plants will thrive very well in Summer, but in Winter they must be removed into the Stove, where they must be placed in a temperate Warmth, and should be often watered: the second Year these Plants will flower, and sometimes they will perfect their Seeds in this Country; but they must be constantly preserv'd in the Stove; for they will not live in the open Air.

BETA, The Beet.

The Characters are;

It hath a thick fleshy Root: the Flowers have no visible Leaves, but many Stamina or Threads, which are collected into a Globe: the Cup of the Flower is divided into five Segments: the Seeds are covered with an hard outer Coat, and grow two or three together in a Bunch.

The Species are;

1. BETA alba, vel pallescens, quæ Cicla officinarum. C. B. The common white Beet.

2. BETA communis, sive viridis. C. B. The common green Beet.

3. BETA rubra vulgaris. C. B. The common red Beet.

4. BETA rubra, radice rapæ rotunda. Boerb. Ind. The turnep-rooted red Beet.

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5. BETA rubra major. C. B. The great red Beet.

6. BETA lutea major. C. B. P. The yellow Beet.

7. BETA maxima Helvetica, latissimo caule. Boerb. Ind. The Swiss or Chard Beet.

The two first-mentioned are preserved in Gardens for the Use of their Leaves in Pot-herbs; but at present they are not so much esteem'd as they have been, and are but in few Gardens: the other Sorts are propagated for their Roots, which, in Winter, are boiled as Parsneps, &c. and served up to Table, and are by many greatly esteem'd: the red Beet is the most commonly cultivated, and is often used to garnish Dishes withal: of this there is a Sort which has been introduced lately into the Kitchen-gardens with a short Top, and green Leaves, with a very red Root: this is preferred to the common red Beet, for the Shortness of the Leaves, so that it doth not spread so much; therefore will grow in less Compass, and not injure any other Crop with which it may be sown; and the Roots are also of a deeper Colour, and very tender. The Swiss Beet is by some very much esteemed: the large flat Ribs of the Leaves are stewed, and afterwards fried in Butter, which is accounted by many a delicate Dish.

These Beets are all propagated by sowing their Seeds in February or March in a deep loose Soil (but not over-dunged); and must be hoed out after they are come up, so as to leave them ten or twelve Inches asunder; for they spread very much; and, if they have not room, their Roots will be very small. The Gardeners near London, in order to make the most of their Ground, sow these Beets with

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Carrots,

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Carrots, upon the same Ground, and draw off their Carrots in the Summer-time for the Market, before the Beets have grown very large; and, when the Carrots are gone, there will be room for the Beets to grow, so that they have a double Crop; and, if their Beets should happen to fail, they plant a Crop of Savoy for the Winter, so that their Ground seldom lies idle.

BETONICA, Betony.

The Characters are;

The Leaves are green, rough, and crenated on the Edges: the Flowers are disposed in a Spike: the upper Crest of the Flower is advanced, and divided into two Segments: the Beard, or lower Part of the Flower, is divided into three, and the middle Segment is bifid: each Flower is, for the most part, succeeded by four naked Seeds.

The Species are;

1. **BETONICA purpurea**. C.B. The common or Wood-betony.
2. **BETONICA alba**. C. B. P. Betony with a white Flower.
3. **BETONICA major Danica**. Park. Theat. Greater Danish Betony.
4. **BETONICA minima Alpina Helvetica**. Park. Theat. The least Betony of the Helvetian Alps.
5. **BETONICA Alpina incana purpurea**. Barrell. Icon. Hoary Alpine Betony, with purple Flowers.
6. **BETONICA Orientalis, folio angustissimo & longissimo, spica florum crassiore**. Tourn. Cor. Eastern Betony, with a long narrow Leaf, and a thick Spike of Flowers.
7. **BETONICA rubicundissimo flore, Montis Aurei**. H. R. Par. Betony with a very red Flower, of Mont d'Or in Auvergne.
8. **BETONICA Orientalis latifolia, caule brevi, flore maximo**. Tourn. Cor. Broad-leav'd Eastern Betony, with a short Stalk, and a very large Flower.

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9. **BETONICA arvensis annua, flore ex albo flavescente**. Tourn. Annual Field Betony, with a yellowish-white Flower.

10. **BETONICA Alpina latifolia major villosa, flore luteo**. H. R. Par. Great broad-leav'd hairy Betony of the Alps, with a yellow Flower.

The first Sort is very common in Woods and shady Places in most Parts of England: it may be propagated in shady Borders in a Garden, by either sowing the Seeds in Spring, or by parting the Roots, which may be taken out of the Woods: the Soil should be rather moist than dry, and not over-rich.

The other Sorts are all hardy Plants, and may be propagated either by sowing of their Seeds in the Spring, or by parting of their Roots; the latter is most commonly practised; but this should be done in Autumn: they should have a shady Situation, and a moist Soil. These are preserved in Botanic Gardens for Variety; but, as they have no great Beauty, they are rarely preserved in other Gardens.

The first Sort is used in Medicine, and is greatly esteemed as a vulnerary Herb. *Antonius Musa*, Physician to the Emperor *Augustus*, wrote a whole Book concerning the Virtues of this Plant; from whence it came to be so much in Esteem, that they have a Proverb in Italy to this Purpose; *Vende la Tonica, e compra la Betonica*; Sell your Coat, and buy Betony. And when they would praise any Person very much, they say, He has more Virtue than Betony.

BETONICA AQUATICA. Vide Scrophularia.

BETONICA PAULI. Vide Veronica.

BETULA, The Birch-tree.

The Characters are;

The Leaves are like those of the Poplar:

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Poplar : the Shoots are very slender and weak : the *Luli*, or *Katkins*, are produced at remote Distances from the Fruits on the same Tree : the Fruit becomes a little squamose Cone : the Seeds are winged : and the Tree casts its outer Rind every Year.

We have but one Species of this Tree, which is common in England; viz.

BETULA. *Dod.* The Birch-tree.

This Tree is propagated by Suckers taken from the Roots of old Trees, which may be transplanted either in *October* or *February*; but *October* is to be preferred; for, if the Spring should prove dry, those planted in *February* will many of them fail: it delights in a poor Soil, and will grow in either moist springy Soils, or in stony or gravelly Marshes or Bogs: when the young Trees have been planted two Years, you should (if designed for Under-wood) cut them down within six Inches of the Surface, which will cause them to shoot out strong and vigorous Branches; but if they are designed for large Trees, it will be much better to let them stand three Years before you head them down; and when you do it, cut them within three Inches of the Ground, that their Stems may be strait and handsome: but you must observe, when they begin to put out, whether they produce more than one Shoot; which if they do, you must rub off all but the strongest and most convenient Shoot, which must be trained up for a Stem.

The Timber of this Tree, though accounted the worst of all others, yet is not without its various Uses: the Turners often use it, to make Chairs, &c. and the Husbandmen, for making Ox-yokes; it is also planted for Hop-poles, Hoops, &c. but in Places within twenty Miles of London, it is

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kept often cut to make Brooms, and turns to great Account.

There are three or four other Sorts of this Tree growing in the Northern Parts of Germany, Sweden, and Lapland, which are all of them rather Shrubs than Trees, the tallest of them seldom rising above ten Feet high, the others about three or four Feet; and, being of little Use, I shall not enumerate them.

There is also a Birch-tree, which has been raised in the Gardens lately, whose Seeds came from America: the Leaves of this Sort are larger than those of the common Birch-tree; but this may be only from the Plant's being young and vigorous; so cannot be pronounced different, by its present Appearance.

BIDENS, Water-hemp-agrimony.

The Characters are;

It hath a compound Flower, for the most part flosculous, consisting of many Florets, divided into several Segments, sitting on the Embryo, and contained in the Flower-cup: sometimes there are also found Semi-florets: the Embryo afterward becomes a Seed, ending in Prickles.

The Species are;

1. **BIDENS folio tripartito diviso.** *Cæsalp.* Water-hemp-agrimony with a divided Leaf.

2. **BIDENS folio non dissecto.** *Cæsalp.* Water-hemp-agrimony with an undivided Leaf.

3. **BIDENS Canadensis latifolia.** *flore luteo. Tourn.* Broad-leav'd Hemp-agrimony of Canada, with a yellow Flower.

4. **BIDENS Americana, apii folio.** *Tourn.* American Hemp-agrimony, with a Smallage-leaf.

5. **BIDENS Indica, hieracii folio, caule alato.** *Tourn.* Indian Hemp-agrimony, with an Hawkweed-leaf, and winged Stalk.

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6. *BIDENS trifolia Americana, leucanthemi flore. Tourn.* Three-leav'd American Hemp-agrimony, with a greater Daisy-flower.

7. *BIDENS Americana ramosissima, foliis gramineis, flore parvo luteo. Houft. Hieracium fruticosum, angustissimis gramineis foliis, capitulis parvis. Sloan. Cat.* American branchy Hemp-agrimony, with grassy Leaves, and small yellow Flowers.

The two first Sorts grow wild in moist Places, by the Sides of Ditches, and standing Waters, in most Parts of England; so are rarely permitted to have a Place in Gardens.

The third and fourth Sorts are Natives of the Northern Parts of America, where they are very troublesome Weeds: the Seeds of these have been brought to England, where the Kinds are preserved by those Persons who are curious in Botanical Studies; but, as they are Plants of no Beauty, they are seldom preserv'd in other Gardens: the Seeds of these Plants are armed with two rough Claws, by which they fasten themselves to the Cloaths of Persons who walk near them when ripe. If these are permitted to scatter, they will soon furnish the Place with Plants.

The fifth, sixth, and seventh Sorts are Natives of the warmer Parts of America; so are more tender than the others: the Seeds of these should be sown upon an Hot-bed in March, and the Plants must be transplanted to another moderate Hot-bed, to bring them forward; and, as they increase in Strength, they should, by degrees, be inured to bear the open Air; and in June they may be taken up with a Ball of Earth to their Roots, and transplanted into the full Ground, where they will flower in July, and their Seeds will

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ripen in August; and the Plants will perish with the first Frost; so they must be annually raised from Seeds, by those Persons who are desirous to preserve them.

BIFOLIUM, Twyblade.

This Plant grows wild in moist Meadows in divers Parts of England; it rises in May, and flowers in June, and soon after dies away. This Plant is of no Use or Beauty.

BIGNONIA, The Trumpet-flower, or Scarlet Jasmine.

The Characters are;

It hath a tubulous Flower, consisting of one Leaf, which opens at the Top like two Lips: these Flowers are succeeded by Pods, which are divided into two Cells, and contain several winged Seeds.

The Species are;

1. *BIGNONIA Americana, fraxini folio, flore amplo phæniceo. Tourn.* The scarlet Trumpet-flower, vulgo.

2. *BIGNONIA Americana, capreolis donata, siliqua breviori. Tourn.* The four-leav'd Dwarf Trumpet-flower, vulgo.

3. *BIGNONIA Americana arbor, flore luteo, fraxini folio. Plum.* The large yellow Trumpet-flower, vulgo.

4. *BIGNONIA simplicifolio cordato. Lin.* The Catalpa, vulgo.

5. *BIGNONIA Americana arbore-scens pentaphylla, flore roseo, major, siliquis planis. Plum.* White-wood, or Tulip-flower, vulgo.

6. *BIGNONIA scandens tetraphylla, fructu maximo echinato. Houft.* Climbing four-leav'd Bignonia, with a large echinated Pod.

7. *BIGNONIA scandens tetraphylla, flore racemoso carneo. Houft.* Climbing four-leav'd Bignonia, with flesh-colour'd Flowers growing in long Bunches.

8. *BIGNONIA Americana, foliis subrotundis glabris, fructu compresso orbiculato.*

orbiculato. Trumpet-flower with smooth roundish Leaves, and round compressed Fruit.

9. *BIGNONIA Americana scandens, foliis pinnatis hirsutis, & marginibus sinuatis, siliquis longissimis & angustissimis.* Climbing American Trumpet-flower, with winged hairy Leaves, indented on their Edges, and long narrow Pods.

10. *BIGNONIA Americana scandens, triphylla & pentaphylla, lobis amplioribus mucronatis & serratis, siliquis longis compressis marginatis.* Climbing Trumpet-flower, with three and five Leaves, which are large, pointed, and sawed on their Edges, and long flat Pods, which are bordered.

11. *BIGNONIA Caroliniana scandens, & semper-virens, foliis angustis glabris, floribus luteis odoratis, siliquis brevissimis.* Climbing Carolina Trumpet-flower, with narrow smooth Leaves, sweet yellow Flowers, and short Pods, commonly called yellow Jasmine in America.

The Sort first-mentioned is common in several curious Gardens near London, and is planted against Walls exposed to the South Sun, where it thrives, and produces large Quantities of Flowers annually; but it requires a great deal of room; for it is a large Shooter; and the Flowers being always produced at the extreme Parts of the same Year's Shoots, if these are stopped, the Flowers are taken off; but in Spring the young Branches may be shortened to three or four Eyes, as in Vines, and the small weak Shoots taken out, leaving the large ones twenty Inches or two Feet asunder: these Branches strike Roots into the Walls, by which they are secured, and require very little Assistance in nailing them up.

The second Sort is of humble Growth, and is only propagated by laying down the Branches in Summer, when they are free of Growth, which in about six or eight Months will take Root, when they may be transplanted into Pots, and in Winter will require to be sheltered with Myrtles, &c. where they may have a large Share of Air. In Summer they must be placed abroad, and treated as other hardy American Plants. This Plant doth not produce large Bunches of Flowers as the first, nor are they so deep-coloured.

There are two other Varieties of the first Sort, one of which has deeper-colour'd Flowers, and the other has much smaller Leaves, than the first; but they are both climbing Plants, and to be treated in the same manner as was directed for the first. These Plants will rise to the Height of forty or fifty Feet, if they are permitted; so are very proper to cover any high Wall or Building, to which they will fasten themselves by striking Roots into the Joints of the Wall.

The third Sort is scarce in England at present: this is a Tree of a large Growth in the warm Parts of America; but being tenderer than the other Sorts, requires to be kept in a Stove in England.

The Seeds of this Sort may be procured from Jamaica, where these Trees grow in great Plenty; but they should be brought over in their Pods, which will preserve them; for those which are taken out are generally so much dried by the Heat, as to destroy them; so that scarce any of them will grow.

The Seeds of the fourth Sort were brought from Carolina by Mr. Catesby, and have been raised in many of

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the Gardens near *London*; so that now it is propagated pretty commonly in the Nurseries near *London*, and sold as a flowering Tree to adorn Pleasure-gardens: this is now usually propagated by Cuttings, which should be planted in *March*; and, if they are placed on a moderate Hot-bed, it will greatly forward their taking Root: in *May* they may be placed in the open Air, and in dry Weather duly watered: by *Michaelmas* these Cuttings will be strong enough to transplant into the Nursery, where they may remain a Year or two, and then they should be transplanted where they are to stand for good; for these Plants do not bear transplanting well, after they have stood long unremoved, or when grown large.

When the Seeds of this Plant are brought over from *Carolina*, if they are sown upon a Bed of light Earth, in a warm Situation, the Plants will come up very well, and, by the following Spring, will be fit to transplant into the Nursery, where they will require the same Culture as other Nursery-plants.

This Sort rises to the Height of twenty-five or thirty Feet, and in a few Years will produce fine Bunches of Flowers; and, as the Leaves of the Tree are remarkably large, it affords great Shade; but if they are planted in Places too much exposed, the Branches are often split down or broken in Summer, by the Leaves stopping the Current of the Air; and this renders them very unsightly; and in severe Frosts the tender Shoots of these Trees are killed, when they stand much exposed to the North or East Winds: to guard against these Evils, they should always be planted in warm, well-sheltered Situations, and upon a Soil moderately dry;

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for although they will make larger Shoots on a moist than a dry Soil, yet they will be in greater Danger of being injured in Winter by Cold.

The fifth Sort grows upright to a considerable Size in the *West-Indies*; but in *England* it only makes a large Shrub, and produces Flowers annually in great Plenty. This Plant makes a beautiful Appearance in the Stove, the Leaves being large, of a thick Substance, and a shining-green Colour: the Flowers are large, and have a sweet Scent; but are of a short Duration. The Cuttings of this Plant will take Root, if they are taken off toward the Latter-end of *March*, before the Plants begin to shoot, and laid in the Stove two or three Days, to heal the wounded Part, before they are planted; for there is a large Quantity of a milky Juice in this Plant, which will occasion the rotting of the Cuttings, if they are planted too green. These Cuttings must be planted in Pots filled with fresh Earth, and plunged into an Hot-bed of Tanners Bark, observing to shade them in the Heat of the Day, and to refresh them with Water; but it must not be given in too large Quantities, lest it rot the Cuttings: it may also be propagated from Seeds, which may be obtained from *Jamaica* or *Barbados*, where these Trees are known by the Name of White-wood, and Tulip-flower. There are great Numbers of these Trees growing near *Bridge-town* in *Barbados*; whose Seeds fall, and, being winged, are carried about the neighbouring Lands, where the Plants rise in great Plenty; and some of the Inhabitants, who want Shelter for their Plantations from the Sea-winds, make great Plantations of these Trees, which grow fast, and resist the

the Fury of the Winds, better than most other Trees: but the Seeds should be brought over in the Pods, otherwise they will not keep; and should be sown, as soon as possible, in Pots filled with fresh light Earth, and plunged into a moderate Hot-bed. When the Plants come up, they must be each transplanted into a separate Pot filled with the same Sort of Earth, and plunged into the Hot-bed again, observing to water and shade them until they have taken Root: after which they must be treated in the manner directed for the Coffee-tree, and other tender Plants, which are preserved in the Bark-stove.

The sixth and seventh Sorts are trailing Plants of lower Growth: these were sent from *Carthagena* by the late Dr. *Houfoun*. These may be propagated from Seeds, or by laying down the Branches, which will take Root in three or four Months. They should be treated in the same manner as the former Sort, and must be kept in the Bark-stove; but they do not require so much Heat in Winter, and in Summer should have more Air; otherwise they will draw up weak. These have not produced Flowers in *England* as yet; tho', from the Appearance of the Plants, we may expect them to flower very soon.

The eighth, ninth, and tenth Sorts were discovered by Mr. *Robert Mil-lar*, Surgeon, at *Campechy*, from whence he sent their Seeds, which have succeeded in the Physic-garden at *Chelsea* very well, where these Plants are now growing.

All these Sorts may be propagated by Seeds, which should be sown in Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark. The Pots should be frequently watered, to keep the

Earth moist, otherwise the Seeds will dry up, which will prevent their growing: when the Plants are come up, they should be each transplanted into a separate small Pot filled with fresh light Earth, and plunged into the Hot-bed again, observing to water and shade them until they have taken fresh Root. As these Plants advance in Strength, they should be shifted into larger Pots; and when they are grown too tall to stand under the Glasses of the Hot-bed, they should be removed into the Bark-stove, where they should be kept in a moderate Heat, and must be frequently refreshed with Water. With this Management the Plants will thrive extremely well, and, in two Years, many of them will produce their Flowers; but they rarely perfect their Seeds in this Country.

The eleventh Sort is very common in *South Carolina*, where it climbs on the Hedges, or whatever Plants grow near it; and, in Summer, produces fine Bunches of yellow Flowers, which have a most agreeable Scent. It is also found wild in *Virginia*, from whence it was first brought into *England*; but it is not there in so great Plenty as at *Carolina*: at present it is very rare in this Country; most, if not all the old Plants, having been killed in severe Winters; and as the Seeds of this Plant are very seldom brought over in their Pods, they lose their growing Quality before they arrive in *England*.

This Plant will live in the open Air in mild Winters, if it is planted in a warm Situation; and the Plants will thrive much better than those which are kept in Pots; so that if there is Care taken to cover them in hard Frosts, it will be much the better Method to plant them in

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Borders close to Walls exposed to the South; and, by training their Branches against the Walls, they will more certainly flower than in Pots.

If the Seeds of these Plants are procured from *America*, they should be gathered in the Pods, and put up in dry Sand, which is the surest Method of preserving them; and they should be sown in Pots filled with light Earth, soon after they arrive; and the Pots may be placed under a common Hot-bed-frame, to guard them from Frost, and great Rains; and in *March* these Pots may be plunged into a moderate Hot-bed, where, if they are gently watered, and screened from the Sun in the Heat of the Day, the Plants will come up in *May*, and should be inured to bear the open Air by degrees.

This Sort may also be propagated by Layers.

BIHAI.

The Characters are;

It hath a tubulous Flower, consisting of one Leaf, shaped almost like a Lily, and cut into two Parts: the Pointal and Stamina are included in two Leaves; the Pointal afterward becomes a fleshy three-corner'd Fruit, containing three hard rough Seeds: to these Notes should be added, Many Flowers contained in a common Covering.

The Species are;

1. BIHAI *amplissimis foliis, florum vasculis coccineis. Plum. Nov. Gen.* Bihai with large Leaves, and a scarlet Covering to the Flowers.

2. BIHAI *amplissimis foliis, florum vasculis subnigris. Plum. Nov. Gen.* Bihai with large Leaves, and a black Covering to the Flowers.

These Plants are at present very rare in *Europe*.

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I received Seeds of the first Sort from *Panama*, which came up in the Physic-garden at *Chelfea*; but the Plants have not produced any Flowers as yet.

They may be propagated by Seeds, which should be sown on an Hot-bed early in the Spring; and, when the Plants are come up, they should be each transplanted into a separate Pot filled with light rich Earth, and plunged into an Hot-bed of Tan-ners Bark, observing to water and shade them until they have taken Root; after which time, in warm Weather, they should have a large Share of fresh Air, and must be frequently watered: during the Summer-season the Plants may remain in the Hot-bed; but in Winter they must be removed into the Stove, and placed near the Fire-place, that they may have a great Share of Heat, without which they will not live thro' the Winter in this Climate: they must also be frequently water'd; but Water should not be given them in too great Plenty in the Winter-season, tho' in the Summer they will require a large Share of Moisture: with this Management these Plants will produce their Flowers very well in this Climate.

BINDWEED. *Vide* Convolvulus.

BIRCH-TREE. *Vide* Betula.

BISCUTELLA. *Vide* Thlaspidium.

BISERRULA. *Vide* Pelecinus.

BISLINGUA. *Vide* Ruscus.

BISTORTA, Bistort, or Snake-weed.

There are three or four Varieties of this Plant, which are found wild in *England*; but as they are seldom planted in Gardens, I shall pass them over with only mentioning the com-

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mon Sort which is used in Medicine.

BISTORTA major, radice minus in-torta. C. B. The common great Bistort, or Snake-weed.

This Plant flowers in May; and, if the Season proves moist, will continue to produce new Spikes of Flowers till August: it may be propagated by planting the Roots in a moist shady Border, either in Spring or Autumn, and will soon furnish the Ground with Plants; for it greatly increases by its creeping Roots.

BIXA. Vide Mitella.

BLADDER NUT. *Vide Staphylodendron.*

BLATTARIA, Moth-mullein.

The Characters are;

The Leaves are placed alternately upon the Branches: the Cup of the Flower consists of one Leaf, which is divided into five Segments: the Flowers consist of one Leaf, which spreads open, and is divided also into five Segments: they are produced in long Spikes, and are succeeded by round Vessels, which are divided into two Cells, and contain many small Seeds in each.

1. *BLATTARIA lutea. J. B.* The yellow Moth-mullein.

2. *BLATTARIA alba. C. B.* The white Moth-mullein.

3. *BLATTARIA flore roseo. Boerb. Ind.* The rose-colour'd Moth-mullein.

4. *BLATTARIA purpurea. C. B.* The purple Moth-mullein.

5. *BLATTARIA perennis, folio verbasci, flore luteo amplo. Mor. Hist.* The perennial Moth-mullein, with large yellow Flowers.

6. *BLATTARIA flore obsoleto colore purpurascente. C. B. P.* Moth-mullein with a worn-out purplish Flower.

7. *BLATTARIA flore nigrae violae colore eleganti nitente. C. B. P.*

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Moth-mullein with an elegant violet-colour'd Flower.

8. *BLATTARIA flore ferrugineo. H. R. Par.* Moth-mullein with an iron-colour'd Flower.

9. *BLATTARIA magno flore. J. B.* Moth-mullein with a large Flower.

10. *BLATTARIA folio verbasci, flore luteo amplo. Moriss. H. Reg. Bles.* Moth-mullein with a Leaf of common Mullein, and a large yellow Flower.

11. *BLATTARIA Ragusina incana multifida. Mor. H. Oxon.* Hoary Moth-mullein of Ragusa, with cut Leaves.

12. *BLATTARIA perennis Cretica incana, foliis binis conjugatim positiss, uno majore extremum claudente. Mor. Hist. Oxon.* Perennial hoary Moth-mullein of Crete, with Leaves set opposite, included by one larger Leaf.

13. *BLATTARIA Orientalis, bugulae folio, flore maximo virescente, lituris luteis in semicirculum striato. T. Cor.* Eastern Moth-mullein, with a Bugle-leaf, and a large greenish Flower, mark'd with semicircular yellow Lines.

14. *BLATTARIA Orientalis, verbasci folio, flore maximo intense violaceo. T. Cor.* Eastern Moth-mullein, with a common Mullein-leaf, and a large Flower, of a deep-violet Colour.

15. *BLATTARIA Orientalis, agrimoniae folio. T. Cor.* Eastern Moth-mullein, with an Agrimony-leaf.

The three first-mentioned, and the ninth, tenth, and eleventh Sorts are biennial Plants, never standing more than two Years: they must be sown in the Spring; and when they are come up, may be transplanted where they are to remain for good. If any of these Plants shoot up to flower the first Year, the Winter will

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will destroy them; but those that are backward will endure our severest Winters, provided they are planted on a dry rubbishy Soil; and the next Spring will flower, and produce good Seeds. When these Plants are in Flower, they perfume the Air, and have a Scent somewhat resembling Violets at a small Distance.

The fourth, fifth, sixth, seventh, and eighth Sorts are Perennials, their Roots abiding several Years in the Ground: these are also raised by sowing their Seeds; for their Roots do seldom part well, and the often removing them prevents their flowering strong. All these Sorts delight in a dry, poor, stony, or gravelly Soil, and are often found growing upon old Walls and Buildings.

The twelfth Sort is a Perennial; but this, being tenderer than the former Sorts, must be sheltered in Winter; therefore these should be planted in Pots filled with fresh undunged Earth; and, if they are placed in Winter under a common Hot-bed-frame, where they may have as much free Air as possible in mild Weather, and only covered in frosty Weather, they will thrive very well.

The thirteenth, fourteenth, and fifteenth Sorts were discovered by Dr. Tournefort in the *Levant*, who sent their Seeds to the *Paris Garden*, from whence several other Gardens have been supplied with them. These Sorts do not ripen their Seeds well in this Country; and, as their Roots do seldom continue above two or three Years, it is very difficult to preserve them long: these must be sheltered in severe Frosts, otherwise they will be destroyed.

The seventh and eighth Sorts are the most beautiful of all the Kinds: these produce very tall Spikes of Flowers, which continue for a long

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time, there being two or three Successions of Flowers, which come out alternately on the same Spikes, which have a very agreeable Scent: these Plants, with Care, may be preserved some Years; but they must not be planted in a rich Soil; for if they grow very rank in Summer, they are subject to rot in Winter.

BLITUM, Blight, or Strawberry-spinach.

The Characters are;

The Empalement of the Flower is divided into three Parts: there is no Petal to the Flower; but in the Centre of the Empalement arises the Pointal, attended by three Stamina: the Empalement afterward becomes a succulent Berry, composed of several Acini, each containing one Seed.

The Species are;

1. BLITUM *foliis triangularibus dentatis, calycibus baccatis, capitulis summis nudis.* Lin. Smaller Strawberry-spinach, or berry-bearing Orach.

2. BLITUM *foliis triangularibus dentatis, calycibus baccatis, capitulis summis foliosis.* Lin. Hort. Cliff. Large Tartarian Strawberry-spinach.

3. BLITUM *foliis triangularibus obtusis & dentatis, capitulis non foliosis.* The common large Strawberry-spinach.

These Plants are frequently preserved in Gardens for their odd Appearance, when their Fruits are ripe: the first of them has but little Beauty, the Berries being small, and not so well colour'd as those of the two other Sorts: the third has been long an Inhabitant of the *English Gardens*; but the second Sort, which came from *Tartary*, has almost supplanted the other: for as the Seeds of these Plants, if suffered to scatter on the Ground, will come up without any Care, the Seeds have sowed themselves

B L

themselves so plentifully in those Gardens where they have been admitted, as to become the most common of all the Sorts.

If the Seeds of either of the Sorts are sown in *March* or *April*, upon a Bed of common Earth, in an open Situation, the Plants will come up in a Month or five Weeks after; and, if they are to remain in the Place where they are sown, will require no other Care but to keep them clear from Weeds, and to thin them out, so as to leave them six or eight Inches apart: and in *July* the Plants will begin to shew their Berries, when they will make a pretty Appearance: but many People transplant these Plants into the Borders of their Flower-gardens; and others plant them in Pots, to have them ready for removing to Court-yards, or to place upon low Walls, amongst other annual Flowers, to adorn those Places.

When these Plants are designed to be removed, they should be transplanted before they shoot up their Flower-stems; for they will not bear transplanting well afterward: and if they are planted in Pots, they will require to be duly watered in dry Weather, otherwise the Plants will flint, and not grow to any Size: and, as the Flower-stems advance, they should be supported by Sticks; for if they are not, the Branches will fall to the Ground, when the Berries are grown pretty large and weighty.

The Leaves of these Plants resemble the pointed-leav'd Spinach; and the Berries are of a scarlet Colour, turning to a Purple as they decay; and are, in Shape, very like the Wood-strawberry; from whence it had the Name of Strawberry-spinach.

B O

The second Sort will grow two Feet and an half, or, in good Ground, often three Feet high; and is furnish'd with Berries, at every Joint, from the Bottom to the Top: so that when the Branches are regularly supported, they make a pretty Appearance. The third Sort seldom grows so tall as the second; but the Berries are rather larger, and the Upper-part of the Stalk is not furnished with Leaves so high; nor are the Indentures of the Leaves so sharp-pointed. They are all annual Plants, which will sow themselves in a Garden, and come up without any Trouble.

BLOODWORT. *Vide* Lappathum.

BOCCONIA.

The Characters are;

It hath a Flower consisting of one Leaf: from the Middle arises the Pointal, which afterward becomes an oval-shaped pointed Fruit; which is full of Juice, each containing one round Seed.

We have but one Species of this Plant; viz.

Bocconia racemosa, sphondylii folio tomentoso. Plum. Nov. Gen. Branching Bocconia, with a woolly Cow-parsnep-leaf.

This Plant is called by Sir Hans Sloane, in his Natural History of Jamaica, *Chelidonium majus arbo-reum, foliis quercinis*; or Greater Tree-celandine, with Oak-leaves.

It is very common in Jamaica, and several other Parts of America, where it grows to the Height of ten or twelve Feet; having a strait Trunk, as large as a Man's Arm, which is covered with a white smooth Bark. At the Top it divides into several Branches, on which the Leaves are placed alternately. These Leaves are eight or nine Inches long, and
five

five or six broad; are deeply sinuated, sometimes almost to the Mid-rib, and are of a fine glaucous Colour; so that this Plant makes a beautiful Variety among other Exotic Plants in the Stove. The whole Plant abounds with a yellow Juice, like the greater Celandine; and is of an acrid Nature; so that it is used by the Inhabitants of *America*, to take off Warts, and Spots from the Eyes.

It is propagated by Seeds, which should be sown in a Pot filled with fresh light Earth, early in the Spring, and plunged into an Hot-bed of Tanners Bark; observing to water it frequently, otherwise the Seeds will not grow. When the Plants are come up, they should be each transplanted into a separate small Pot filled with light sandy Earth, and plunged into the Hot-bed again; observing to shade the Glasses in the Heat of the Day, until the Plants have taken Root. In Winter they should be plunged into the Bark-stove, where they should have a large Share of fresh Air in warm Weather, and must be plentifully watered. With this Management, I have raised these Plants upward of two Feet high in one Season; which were also very strong in their Stems. These Plants must be constantly kept in Stoves, allowing them a temperate Heat in Winter; and in Summer they should have plenty of Air in warm Weather, as also a large Share of Moisture. This Plant has flowered in the Physic-garden at *Chelsea*, and perfected Seeds; but if it were not to flower, the singular Beauty of the Plant renders it worthy of a Place in every curious Collection of Plants; and it seems the *Indians* were very fond of it; for *Hernandez* tells us, the *Indian Kings* planted it in their Gardens.

BOERHAAVIA, Hogweed.

The Characters are;

The Flower consists of one Petal or Leaf, which is of the bell shaped Kind, having five Angles: this has scarce any Empalement: in the Centre is fixed the Pointal, attended by three short Stamina: the Pointal afterward turns to a furrowed Fruit, inclosing a single Seed.

The Species are;

1. BOERHAAVIA *solanifolia major*. Vaill. Greater Hogweed, with a Nightshade-leaf.

2. BOERHAAVIA *solanifolia procumbens* & *hirsuta*, floribus coccineis compactis. Houst. Hairy trailing Hogweed, with a Nightshade-leaf, and compacted scarlet Flowers.

3. BOERHAAVIA *alsines folio*, scandens, floribus pallide luteis majoribus in umbellæ modum dispositis, semine aspero. Houst. Climbing Hogweed, with a Chickweed leaf, large pale-yellow Flowers disposed in an Umbel, and a rough Seed.

4. BOERHAAVIA *solanifolia erecta glabra*, floribus carneis laxius dispositis. Houst. Upright smooth Hogweed, with a Nightshade leaf, and flesh-colour'd Flowers, growing loosely on the Spike.

5. BOERHAAVIA *procumbens, solani folio glabro*, flore coccineo. Houst. Trailing Hogweed, with a smooth Nightshade-leaf, and a scarlet Flower.

These Plants are all of them Natives of the *West-Indies*, where they grow as Weeds. The first Sort is the most common in the *British* Islands; where the Inhabitants use it for several Disorders, and recommend it as a Remedy for several Distempers.

These are all of them annual Plants, which perish soon after they have perfected their Seeds; and, in warm Countries, the Seeds which

scatter, will grow, and become Weeds in such Places. But, in *England*, the Seeds must be sown upon an Hot-bed in *March*, and the Plants must be transplanted upon another moderate Hot-bed, to bring them forward; where they may grow till the Middle of *June*; when they must be carefully transplanted into a Bed of rich Earth, in a warm Situation; and they will perfect their Seeds in *August*, or the Beginning of *September*.

BONDUC, The Nickar-tree, *vulgo*.

The Characters are;

It hath a polypetalous, or a monopetalous Flower, cut very deeply into several Segments; but is almost of an anomalous Figure: from whose Calyx arises the Pointal, which afterward becomes a Pod beset all over with Prickles, in which are contained one or two round hard Seeds.

The Species are;

1. BONDUC *vulgare majus polyphyllum*. *Plum. Nov. Gen.* The yellow Nickar, or Horse-nickar, *vulgo*.

2. BONDUC *vulgare minus polyphyllum*. *Plum. Nov. Gen.* The grey or ash-colour'd Nickar.

3. BONDUC *caule recto inermi, foliis deciduis*. Upright smooth *Canada* Nickar-tree, which casts its Leaves in Winter.

The two first Sorts are very common in *Jamaica*, *Barbados*, and the *Caribbee-Islands*; where the Children use the Fruit for Marbles; their outer Coats being so hard, as with great Difficulty to be broken. These Fruits are often brought to *England*, and formerly were used for Buttons; but at present I don't know any Use made of them. They commonly grow to the Height of ten or twelve Feet, and twist themselves round any other Trees which grow

near them. There is very little Difference between these two Plants, except in the Colour of their Fruit, and the second Sort having smaller and rounder Leaves than the first.

These Plants are propagated by Seeds, which are so hard, as not easily to be made to vegetate in *England*. The only Way by which I have been able to get these Plants from Seeds, is, to put the Seeds into a warm Bed of Tanners Bark, under a Pot, where the Heat of the Tan, and the Moisture which gets thro' the Pot, will cause the Shell of the Fruit to burst, and the young Plant soon after appears: then they may be taken out of the Tan, and put each into a small Pot filled with fresh Earth, and plunged into the Tan again. These Plants will make considerable Progress, if they are kept in a warm Bed, and frequently watered. They must also be kept in a Bark-stove in Winter; otherwise it will be difficult to preserve them in this Country. Their Stems, Branches, and Leaves, are all beset with sharp crooked Spines; which fasten themselves to the Cloaths of any Person who approaches them. These Plants are preserved for Variety, by such as are curious in Exotic Plants.

The Seeds of the third Sort of Nickar-tree were brought from *Canada*, where it grows to a Tree of great Size. These were raised at *Paris*, in the Royal Garden, where they thrive in the open Air, and produce Suckers from their Roots; by which they have been propagated, and dispersed into some curious Gardens; but, at present, it is very rare in *England*; being only in the curious Gardens of the late Duke of *Richmond*, at *Goodwood* in *Suffex*; and one Plant in the Physic-garden at *Chelsea*, which his late

Grace

Grace was pleased to communicate in the Year 1750. but as this Tree multiplies fast by Suckers, we may hope to have it common, in a few Years, in the *English* Gardens; especially as it is hardy enough to resist the greatest Cold of our Winters in the open Air.

BONTIA, *Barbados* wild Olive, *vulgo*.

The Characters are;

It hath a personated Flower, consisting of one Leaf, whose upper Lip is erect; the under Lip is divided into three Parts: from out of the Cup arises the Pointal, fixed like a Nail in the hinder Part of the Flower; which afterward becomes an oval Fruit, which is soft, and full of Juice; in which is contained one oblong Shell, inclosing a Nut of the same Form.

We know but one Species of this Plant at present; which is,

BONTIA *laureolæ facie*. Hort. Elth.
The *Barbados* wild Olive.

This Plant is greatly cultivated in the Gardens at *Barbados*, for making of Hedges; than which there is not a more proper Plant to thrive in those hot Countries, it being an Ever-green, and of a quick Growth. I have been informed, that from Cuttings planted in the rainy Season, when they have immediately taken Root, there has been a complete Hedge, four or five Feet high, in eighteen Months. And as this Plant will very well bear cutting, it is formed into a very close thick Hedge, which makes a beautiful Appearance. In *England* it is preserved in Stoves, with several curious Plants of the same Country. It may be raised from Seeds, which should be sown on an Hot-bed early in the Spring, that the Plants may acquire Strength before Winter. When the Plants are come up, they must be

transplanted out each into a separate Halfpeny Pot filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark; observing to water and shade them until they have taken Root; after which, they must have a large Share of Air in warm Weather, and be often refreshed with Water. In Winter they must be placed in the Stove, where they should have a moderate Degree of Warmth, and will often require Water; but it must not be given to them in too great Quantities, lest it rot their tender Roots. In Summer they must have a great Share of Air; but will not do well, if exposed abroad: so that they should always remain in the Stove, among Plants which require a great Share of Air; which may be admitted by opening the Glasses in very hot Weather. With this Management, these Plants will produce Flowers and Fruit, in two or three Years, from Seed. They may also be propagated by Cuttings; which should be planted in the Spring, before the Plants have begun to shoot. These must be put into Pots filled with rich light Earth, and plunged into a moderate Hot-bed; observing to water and shade them until they have taken Root; after which they must be treated as hath been directed for the seedling Plants. These Plants, being ever-green, and growing in a pyramidal Form, make a pretty Variety in the Stove, amongst other Exotic Plants.

BONUS HENRICUS. *Vide* Chenopodium.

BORBONIA.

The Characters are;

It hath an open bell-shaped Flower of one Leaf, which is divided into six Parts, and is of an irregular Form at the Base; from the Bottom of which arises the Pointal, which afterward

terward turns to a Fruit shaped like an Acorn, which divides into two Lobes.

The Species are ;

1. BORBONIA fructu oblongo nigro, calyce coccineo. Plum. This is called black-berried Bay, in Carolina.

2. BORBONIA fructu globoso nigro, calyce viridi rubente. Plum. Round black-berried Borbonia.

3. BORBONIA fructu oblongo, calyce viridi. Houst. Borbonia with an oblong Fruit, and a green Cup.

These three Sorts were found by Dr. Houstoun, in the Island of Cuba, from whence he brought their Seeds. The two first were discovered by Father Plumier, in the Island of Martinico. The first of these is pretty common in South Carolina, from whence the Seeds were brought by Mr. Catesby to England ; where many of the Plants have been raised. This Sort is too tender to live thro' the Winter in the open Air, unless it is planted in a very warm Situation : for all those which were planted in the full Ground, before the Year 1740. were destroyed by the Frost that Winter : but they will thrive in a common Green-house in Winter ; and in Summer they may be placed in the open Air, with other hardy Exotic Plants. The Seeds of this Sort should be sown in Pots filled with light Earth, and plunged upon a moderate Hot-bed, to bring them up, otherwise they will remain a long time in the Ground ; and those Plants which come up, will be very weak ; so will be in Danger of being destroyed the following Winter, unless Care be taken to guard them from Frost and Damps. The Seeds of this Sort will often lie in the Ground a whole Year before the Plants will come up : therefore the Pots should be sheltered under a Frame the following Winter, and,

in the Spring, put upon another Hot-bed, to force up the Plants. When they come up, they may remain in the same Pots till the following Spring ; when they should be each transplanted into a separate small Pot ; and if they are plunged upon a fresh Hot-bed, to bring them forward, it will be of great Use to the Plants ; for they are of slow Growth during the two first Years ; but after they have acquir'd Strength, they will make considerable Shoots every Year.

The other Sorts are yet more tender than this ; therefore they will require a greater Care, especially while they are young : but after they have acquired Strength, they will live thro' the Winter in a good Green-house : but, till then, it will be proper to place them in a Stove, where there is a gentle Fire kept in Winter ; because these Plants are very subject to be injured by the Damps of the Winter.

All these Sorts retain their Leaves in Winter ; therefore are very ornamental Plants in a Green-house : and, as some Plants of the first Sort have produced Flowers for some Years in England, we may hope to see them produce Fruit here soon.

BORRAGO, Borrage.

The Characters are ;

The Leaves are broad and rough : the Flowers consist of one Leaf, are of a Wheel-shape, and divided into five Segments almost to the Bottom, which end in sharp Points like a Star : the Apices in the Middle of the Flower are sharp-pointed, and adhere together : the Seeds are rough, and appear like a Viper's Head.

The Species are ;

1. BORRAGO floribus cœruleis, J. B. The common Borrage, with blue Flowers.

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2. BORRAGO *flore pallescente, roseo aut suave-rubente. Tourn.* The common Borrage, with a pale rose-coloured Flower.

3. BORRAGO *floribus albis. J. B.* The common Borrage, with a white Flower.

4. BORRAGO *Cretica, flore reflexo elegantissimo suave-rubente. T. Cor.* Cretan Borrage, with an elegant soft red reflexed Flower.

5. BORRAGO *Constantinopolitana, flore reflexo cæruleo, calyce vesicario. T. Cor.* Borrage of Constantinople, with a blue reflexed Flower, and a swelling Empalement.

The first Sort is very common in all Parts of *England*, being often found upon Dunghills, and in public Roads, where the Seeds have been scattered from Gardens, but is hardly a native Plant of our Island: however, it is so far naturalized amongst us, that where-ever it is suffered to stand till its Seeds are dropt upon the Ground, there will always be a plentiful Crop.

The Seeds of this Plant may be sown in the Spring or Autumn, soon after they are ripe: it will grow in almost any Soil, but best in that which is dry. This Plant is often used in the Kitchen, and for cool Tankards in Summer-time, and the Flowers are used in medicinal Cordials.

The white and rose-coloured Flowers are accidental Varieties of the common Sort; but the Seeds of either Sort, being sown separately, will produce some Plants of the same kind: there is also a Variety of this with a variegated Leaf.

The fifth and sixth Sorts were discovered by Dr. Tournefort, one in the Island of *Candia*, and the other at *Constantinople*; from whence he sent the Seeds to the Royal Garden at *Paris*, where they grew, and have

since been communicated to several other Gardens: these Plants may be propagated by Seeds, as also by parting their Roots: the latter is usually practised in this Country, because their Seeds are seldom perfected here: the best time for parting their Roots is about the End of *August*, that they may take Root before Winter: if these are planted in a warm Border, they will endure the Cold of our ordinary Winters very well; but some of them should be planted in Pots, that they may be sheltered under a Frame in Winter, for fear those in the open Air should be destroyed, which in severe Winters they very often are: these Plants are commonly preserved in Botanic Gardens for the sake of Variety; and, for the Oddness of their Flowers, a few Plants of each Sort may have Place in the Flower-gardens.

BOSIA.

The Characters are;

The Flower has no Petals: the Empalement is divided into five Parts: this afterward incloses the Embryo, which becomes a succulent Berry, containing one Seed.

We have but one Sort of this Plant; viz.

BOSIA. *Lin. Corol. Arbor baccifera Canariensis, syringæ cæruleæ foliis, purpurantibus venis, fructu monopyreno, Yerva-mora Hispanorum. Pluk. Phyt.* Commonly called Golden-rod-tree.

This Plant is a Native of the Islands of the *Canaries*; and it hath also been since found in some of the *British* Islands in *America*: it was first brought into *England* from the *Canaries*, and has been long an Inhabitant of the *English* Gardens; but I have not as yet seen any of these Plants in Flower, tho' I have had many old Plants under my Care near thirty Years: it makes a pretty strong

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strong woody Shrub, growing to be a Stem as large as a middling Person's Leg: the Branches come out very irregular, and make considerable Shoots in Summer, which should be shortened every Spring, to preserve the Heads of the Plants in any tolerable Order: these Branches retain their Leaves till toward the Spring, when they fall away, and new Leaves are produced soon after: this may be propagated by Cuttings planted in the Spring, and the Plants must be housed in Winter, being too tender to live through the Winter, in the open Air, in this Country.

BOTRYS. *Vide* Chenopodium.

BOX-TREE. *Vide* Buxus.

BRABEJUM, *African Almond*, *vulgo*.

The Characters are;

The Flower has no Empalement, and consists of four narrow Petals, which form a Tube, and turn back at the Brim: in the Middle arises the Ovary, attended by four Stamina: the Ovary afterward becomes a soft silky Fruit, inclosing one oval Nut.

We have but one Sort of this Plant; *viz.*

BRABEJUM. *Hort. Cliff. Amygdalus Æthiopica, fructu holoserico. Breyn. Cent. African or Ethiopian Almond*, with a silky Fruit.

This Tree is a Native of the Country about the Cape of Good Hope, from whence it was first introduced into the curious Gardens in Holland, and has since been distributed into many Parts of Europe.

In this Country it seldom grows above eight or nine Feet high; but in its native Soil it is a Tree of middling Growth; though, as it must be kept in Pots or Tubs in this Country, being too tender to live through the Winter in the open Air, we cannot expect to see them grow to any great Size.

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This Plant is propagated by Cuttings or Layers; but the Cuttings should be planted in April, and placed on a moderate Hot-bed, otherwise they will not take Root: the Layers are often two Years before they make Roots strong enough to be taken from the old Plants: when the Branches are laid down, it will be a good Method to slit them at a Joint (as is practised in laying Carnations), which will promote their taking Root.

The Plants must have a good Green-house in Winter; but in Summer should be set abroad in a sheltered Situation, where they will thrive, and sometimes produce Flowers; so will make a pretty Variety among other Exotic Plants.

BRANCA URSINA, *Vide* Acanthus.

BRASSICA, The Cabbage.

The Characters are;

The Leaves are large, fleshy, and of a glaucous Colour: the Flowers consist of four Leaves, which are succeeded by long taper Pods, containing several round acrid Seeds.

The Species are;

1. BRASSICA capitata alba. C.B. The common white Cabbage.

2. BRASSICA capitata rubra. C.B. The red Cabbage.

3. BRASSICA capitata alba minor Muscovitica. H. A. The Russian Cabbage.

4. BRASSICA capitata alba compressa. Boerb. Ind. The flat-sided Cabbage.

5. BRASSICA capitata alba pyramidalis. The Sugar-loaf Cabbage.

6. BRASSICA capitata alba præcox. The early Battersea Cabbage.

7. BRASSICA Sabauda hyberna. Lob. Ic. The white Savoy Cabbage.

8. BRASSICA capitata viridis Sabauda. Boerb. Ind. The green Savoy Cabbage.

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9. *BRASSICA fimbriata*. C. B. The Boorcole.

10. *BRASSICA capitata virescens Italica crispa*. Munt. Hist. The green Broccoli.

11. *BRASSICA Italica Broccoli dicta*. The Italian Broccoli.

12. *BRASSICA radice napiformi*. Tourn. The turnep-rooted Cabbage.

13. *BRASSICA cauliflora*. C. B. The Cauliflower.

14. *BRASSICA gongylodes*. C. B. P. The Turnep-cabbage.

15. *BRASSICA asparagodes crispa*. C. B. P. Curled Colewort

16. *BRASSICA peregrina moschum olens*. H. R. Par. The Musk-cabbage.

17. *BRASSICA maritima arborea, seu procerior ramosa*. Mor. Hist. Branching Tree-cabbage from the Sea-coast.

18. *BRASSICA rugosa, longioribus foliis*. J. B. Brown Broccoli.

19. *BRASSICA arvensis*. C. B. P. Common Colewort.

20. *BRASSICA Alpina perennis*. Tourn. Perennial Alpine Colewort.

21. *BRASSICA campestris perfoliata, flore albo*. C. B. P. Perfoliated wild Cabbage, with a white Flower.

22. *BRASSICA campestris perfoliata, flore purpureo*. C. B. P. Perfoliated wild Cabbage, with a purple Flower.

The common hite, red, flat, and long-sided Cabbages are chiefly cultivated for Winter-use: the Seeds of these Sorts must be sown in the Middle of *March*, in Beds of good fresh Earth; and in *April*, when the young Plants will have about eight Leaves, they should be pricked out into shady Borders, about three Inches square; that they may acquire Strength, and to prevent their growing long-shank'd.

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About the Middle of *May*, you must transplant them out, where they are to remain for good (which, in the Kitchen-gardens near *London*, is commonly between Cauliflowers, Artichokes, &c. at about two Feet and an half Distance in the Rows); but if they are planted for a full Crop in a clear Spot of Ground, the Distance from Row to Row should be three Feet and an half, and in the Rows two Feet and an half asunder: if the Season should prove dry when they are transplanted out, you must water them every other Evening until they have taken fresh Root; and afterwards, as the Plants advance in Height, you should draw the Earth about their Stems with an Hoe, which will keep the Earth moist about their Roots, and greatly strengthen the Plants: you must also observe to keep them clear from Weeds, which are apt to draw the Plants up tall (if suffer'd to grow amongst them), and often spoil them.

These Cabbages will some of them be fit for Use soon after *Michaelmas*, and will continue until *February*, if they are not destroyed by bad Weather: to prevent which, the Gardeners near *London* pull up their Cabbages in *November*, and trench their Ground up in Ridges, laying their Cabbages against their Ridges as close as possible on one Side, burying their Stems in the Ground: in this manner they let them remain till after *Christmas*, when they cut them for the Market; and although the outer Part of the Cabbage be decay'd (as is often the Case in very wet or hard Winters), yet, if the Cabbages were large and hard when laid, the Inside will remain sound.

The *Russian* Cabbage was formerly in greater Esteem than at present, it being now only to be found in
Gentlemens

Gentlemens Gardens, who cultivate it for their own Use, and is rarely ever brought to the Market. This must be sown in the Spring of the Year, and managed as those before directed, with this Difference only, that these must be sooner planted out for good, and must have an open clear Spot of Ground, and require much less Distance every Way; for it is a very hard small Cabbage. These will be fit for Use in *July* or *August*; but will not continue long before they will break, and run up to Seed. The best Method to have these Cabbages good, is to procure fresh Seeds from abroad every Year; for it is apt to degenerate in *England* in a few Years.

The early *Battersea* and Sugar-loaf Cabbages are commonly sown for Summer-use, and are what the Gardeners about *London* commonly call *Michaelmas* Cabbages. The Season for sowing of these is about the End of *July*, in an open Spot of Ground; and when the Plants have got eight Leaves, you must prick them out into Beds at about three Inches Distance every Way, that the Plants may grow strong and short-shank'd; and in the Middle of *October* you should plant them out for good: the Distance that these require is, three Feet Row from Row, and two Feet and an half asunder in the Rows. The Gardeners near *London* commonly plant these Cabbages upon the same Spot of Ground where their Winter-spinach is sown; so that when the Spinach is clear'd off in the Spring, the Ground will have a Crop of Cabbages upon it; you must therefore clear off the Spinach just round each Plant early in the Spring, that with an Hoe you may draw the Earth up to the Stem; and when all your Spinach is clear'd off, which is commonly in *April*, you must hoe

down all the Weeds, and draw up the Earth again about your Cabbage-plants.

In *May*, if your Plants were of the early Kind, they will turn in their Leaves for Cabbaging; at which time, the Gardeners near *London*, in order to obtain them a little sooner, tie in their Leaves close with a slender Oser twig to blanch their Middle; by which means they have them at least a Fortnight sooner than they could have, if they were left untied.

The early *Battersea* Cabbage being the first, we should choose (if for a Gentleman's Use) to plant the fewer of them, and a greater Quantity of the Sugar-loaf Kind, which comes after them; for the *Battersea* Kind will not supply you long, they generally cabbaging apace when they begin, and as soon grow hard, and burst open: but the Sugar-loaf Kind is longer before it comes, and is as slow in its cabbaging; and, being of an hollow Kind, will continue good for a long time. I have known a large Quarter of Ground, which was planted with this Sort of Cabbage for Market-use, which hath afforded a Supply for near three Months together. This, though of singular Service to a Gentleman's Garden, is not so much for the Advantage of the Market-gardener, who loves to have his Ground clear'd sooner, that he may have another Crop upon it, of Celery, Endive, &c. which is more to his Purpose; for they, paying large Rents for their Land, are obliged to have as many Crops in a Year from it as possible.

Although I before have advis'd the planting out of your Cabbages for good in *October*, yet the Sugar-loaf Kind may be planted out in *February*, and will succeed as well as if planted earlier, with this Differ-

ence only, that they will be later before they cabbage. You should also reserve some Plants of the *Battersea* Kind in some well-sheltered Spot of Ground, to supply your Plantation, in case of a Defect; for in mild Winters many of the Plants are apt to run to Seed, and, in severe Winters, they are often destroyed.

The *Savoy* Cabbages are propagated for Winter-use, as being generally esteemed the better when pinch'd by the Frost: these must be sown about the Beginning of *April*, and treated after the manner as was directed for the common white Cabbage; with this Difference, that these may be planted at a closer Distance than those; two Feet and an half square will be sufficient. These are always much the better when planted in an open Situation, which is clear from Trees and Hedges; for in close Places they are very subject to be eaten almost up by Caterpillars, and other Vermin, especially if the Autumn prove dry.

The Boorcole may be also treated in the same manner, but need not be planted above one Foot square: these are never eaten till the Frost hath rendered them tender; for otherwise they are tough and bitter.

The Seeds of the Broccoli (of which there are several Kinds; viz. the *Roman*, *Neapolitan*, and black Broccoli, with some others; but the *Roman* is generally preferred to them all) should be sown about the Middle or Latter-end of *May*, in a moist Soil; and when the Plants are grown to have eight Leaves, transplant them into Beds (as was directed for the common Cabbage); and toward the Middle or Latter end of *July* they will be fit to plant out for good, which should be into some well-sheltered Spot of Ground, but not under the Drip of Trees: the Distance

these require is about a Foot and an half every Way. The Soil in which they should be planted ought to be rather light than heavy, such as are the Kitchen-gardens near *London*: if your Plants succeed well (as there will be little Reason to doubt, unless the Winter prove extreme hard), they will begin to shew their small Heads, which are somewhat like a Cauliflower, but of a purple Colour, about the Beginning of *December*, and will continue eatable till the End of *March*.

The brown Broccoli is by many Persons greatly esteemed, tho' it doth not deserve a Place in the Kitchen-garden, where the *Roman* Broccoli can be obtained, which is much sweeter, and will continue longer in Season: indeed the brown Sort is much hardier, so that it will thrive in the coldest Situations, where the *Roman* Broccoli is sometimes destroyed in very hard Winters. The brown Sort should be sown in *April*, and managed as hath been directed for the common Cabbage, and should be planted at the same Distance, which is about two Feet and an half asunder. This will grow very tall; so should have the Earth drawn up to their Stems as they advance in Height. This doth not form Heads so perfect as the *Roman* Broccoli; the Stems and Hearts of the Plants are the Part which is eaten.

The *Roman* Broccoli, if well managed, will have large Heads, which appear in the Centre of the Plants, like Clusters of Buds. These Heads should be cut before they run up to Seed, with about four or five Inches of the Stem; the Skin of these Stems should be stripped off, before they are boiled: these will be very tender, and little inferior to Asparagus. After the first Heads are cut off, there will be

B R

be a great Number of Side-shoots produced from the Stems, which will have small Heads to them, but are full as well flavoured as the large Heads. These Shoots will continue good until the Middle of *April*, when the Asparagus will come in Plenty to supply the Table.

The *Naples* Broccoli hath white Heads, very like those of the Cauliflower, and eats so like it, as not to be distinguished from it: this is much tenderer than the *Roman* Broccoli; so is not so much cultivated in *England*; for as the Gardens near *London* generally produce great Plenty of late Cauliflowers, which, if the Season prove favourable, will continue till *Christmas*; the *Naples* Broccoli, coming at the same time, is not so valuable.

Besides this first Crop of Broccoli (which is usually sown the Middle or Latter-end of *May*), it will be proper to sow another Crop the Beginning of *July*, which come in to supply the Table the Latter-end of *March*, and the Beginning of *April*; and being very young, will be extremely tender and sweet.

In order to save good Seeds of this Kind of Broccoli in *England*, you should reserve a few of the largest Heads of the first Crop, which should be let remain to run up to Seed; and all the Under-shoots should be constantly stripped off, leaving only the main Stem to flower and seed. If this be duly observed, and no other Sort of Cabbage permitted to seed near them, the Seeds will be as good as those procured from abroad, and the Sort may be preserved in Perfection many Years.

The Manner of preparing them for the Table is this: When your Heads are grown to their full Bigness (as may be easily known by their dividing, and beginning to run

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up), then you should cut them off, with about four Inches of the tender Stem to them; then strip off the outer Skin of the Stem, and, after having washed them, boil them in a clean Linen-cloth (as is practised for Cauliflowers), and serve them up with Butter, &c. and, if they are of a right Kind, they will be tenderer than any Cauliflowers, though very like them in Taste.

The Turnep-cabbage was formerly more cultivated in *England* than at present; for since other Sorts have been introduced which are much better flavoured, this Sort has been neglected. There are some Persons who esteem this Kind for Soups; but it is generally too strong for most *English* Palates, and is seldom good but in hard Winters, which will render it tender, and less strong.

It may be propagated by sowing the Seeds in *March*, on a Bed of fresh light Earth; and when the Plants are come up about an Inch high, they should be transplanted out into a shady Border, at about two Inches Distance every Way, observing to water them until they have taken Root; after which time they will require no other Culture, but to keep them clear from Weeds, unless the Season should prove extremely dry; in which Case it will be proper to water them every four or five Days, to prevent their being stunted by the Mildew, which is subject to seize these Plants in very dry Weather.

The Latter-end of *May*, or the Beginning of *June*, these Plants should be transplanted out where they are to remain, allowing them two Feet Distance every Way, observing to water them until they have taken Root; and as their Stems advance, the Earth should be drawn up to them with an Hoe, which will preserve the Earth moist about their

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Roots, and prevent their Stems from drying, and growing woody, so that the Plants will grow more freely. In Winter they will be fit for Use; when they should be cut off, and the Stems pulled out of the Ground, and thrown away, as being good for nothing after the Heads are cut off.

The curled Colewort is more generally esteemed than the former. This may be propagated by sowing the Seeds the Beginning of *July*; and when the Plants are strong enough for transplanting, they should be planted in Rows about eight or nine Inches asunder, and four or five Inches Distance in the Rows: this Work should be performed at a moist time, when the Plants will soon take Root, and require no farther Care. These will be fit for Use after *Christmas*, and continue good until *April*, so that they are very useful in a Family.

The Musk-cabbage has, through Negligence, been almost lost in *England*, though for eating it is one of the best Kinds we have; but is tenderer than many other Sorts, so not profitable for Gardeners who supply the Markets; but those who cultivate them for their own Table, should make Choice of this, rather than any of the common Cabbage; for it is always looser, and the Leaves more crisp and tender, and has a most agreeable musky Scent when cut. This may be propagated in the same manner as the common Cabbage, and should be allowed the same Distance: it will be fit for Use in *October*, *November*, and *December*; but, if the Winter proves hard, these will be destroyed much sooner than the common Sort.

The branching Sea-cabbage is found wild in several Parts of *England*, on the Sea-coast, and is sometimes gathered by the poor Inhabit-

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ants in the Spring, and eaten; but it is apt to be strong and bitter, so that it is rarely cultivated for Use in the Gardens.

The common Colewort is now almost lost near *London*, where their Markets are usually supplied with Cabbage or *Savoy* Plants, instead of them; and those being tenderer, and more delicate, are better worth cultivating than the common Colewort, which is stronger, and better able to resist the Cold in severe Winters, than either of those, but is not near so delicate. And since the Winters in *England* have been generally temperate of late Year, the common Cabbage and *Savoy* Plants have constantly been cultivated by the Gardeners near *London*, and sold in the Markets as Coleworts: indeed, where Farmers sow Coleworts to feed their Milch-cattle in the Spring, when there is a Scarcity of Herbage, the common Colewort is to be preferred, as being so very hardy, that no Frost will destroy it. The best Method to cultivate this Plant in the Fields is, to sow the Seeds about the Beginning of *July*, choosing a moist Season, which will bring up the Plants in about ten Days or a Fortnight: the Quantity of Seed for an Acre of Land is nine Pounds: when the Plants have gotten five or six Leaves, they should be hoed, as is practised for Turneps, cutting down all the Weeds from amongst the Plants, and also thinning the Plants where they are too thick; but they should be kept thicker than Turneps, because they are more in Danger of being destroyed by the Fly: this Work should be performed in dry Weather, that the Weeds may be killed; for if it should prove moist soon after, the Weeds will take Root again, and render the Work of little Use. About six Weeks after, the
Plants

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Plants should have a second Hoeing, which, if carefully performed in dry Weather, will intirely destroy the Weeds, and make the Ground clean, so that they will require no farther Culture: in the Spring they may either be drawn up and carried out to feed the Cattle, or they may be turned in to feed them as they stand; but the former Method is to be preferred, because there will be little Waste; whereas, when the Cattle are turned in amongst the Plants, they will tread down and destroy more than they eat.

The perennial *Alpine* Colewort is also little cultivated in the Gardens near *London* at present. This is very hardy, and may be cultivated in the same manner as the former Sort. This will continue two Years before it runs up to Seed, and will afterwards produce many Side-shoots, and in poor Land will continue three or four Years; but in rich Soils it will not last so long. This may be used as the former Sort, to feed Cattle; for it is not so good for the Table as the Plants which are now cultivated for that Purpose.

The other two Sorts of wild Cabbage are Varieties fit for a Botanic Garden; but are Plants of no Use. These may be propagated by sowing their Seeds on a Bed of light Earth early in the Spring, in the Place where they are designed to remain (for they do not bear transplanting well): when the Plants are come up pretty strong, they should be thinned, so as to leave them four or five Inches apart; and they must be constantly kept clear from Weeds. In *June* they will flower; and their Seeds will ripen the Beginning of *August*; which if permitted to fall, the Plants will come up, and maintain themselves without any farther Care but to keep them clear from

B R

Weeds. They are annual Plants, and perish when they have perfected their Seeds.

The Manner of saving the Seeds of all the best Sorts of Cabbages is: About the Middle of *November* you should make choice of some of your best Cabbages, which you should pull up, and carry to some Shed, or other cover'd Place, where you should hang them up for three or four Days by their Stalks, that the Water may drain from between their Leaves; then plant them in some Border under an Hedge or Pale, quite down to the Middle of the Cabbage, leaving only the Upper-part of it above-ground; observing to raise the Earth up about it, so that it may stand a little above the Level of the Ground; especially if the Ground is wet, they will require to be raised pretty much.

If the Winter should prove very hard, you must lay a little Straw or Peas-haulm lightly upon them; taking it off as often as the Weather proves mild, lest by keeping them too close they should rot. In the Spring of the Year these Cabbages will shoot out strongly, and divide into a great Number of small Branches: you must therefore support their Stems, to prevent their being broken off by the Wind; and if the Weather should be very hot and dry, you should refresh them with Water once a Week, which will greatly promote their Seeding, especially at the time when they are in Flower.

When the Pods begin to change brown, you will do well to cut off the extreme Part of every Shoot; which will strengthen your Seeds: and it is generally observed, that those Seeds which grow near the Top of the Shoots, are very subject to run to Seed before they cabbage;

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So that by this there will be no Loss, but a real great Advantage, especially if you have more regard to the Quality than to the Quantity of the Seeds; which indeed is not always the Case, when it is intended for Sale: but those who save it for their own Use, should be very careful to have it good.

When your Seeds begin to ripen, you must be particularly careful, that the Birds do not destroy it; for they are very fond of these Seeds. In order to prevent their Mischief, some use old Nets, which they throw over their Seeds, to prevent their getting to it: but this will not always do; for, unless the Nets are very strong, they will force their Way through them, as I have often seen; but the best Method I know, is to get a Quantity of Birdlime, and daub over a Parcel of slender Twigs, which should be fastened at each End to stronger Sticks, and placed near the Upper-part of the Seed, in different Places, so that the Birds may alight upon them, by which means they will be fastened thereto: where you must let them remain for a considerable time, if they cannot get off themselves: and altho' there should not be above two or three Birds caught, yet it will sufficiently terrify the rest, that they will not come to that Place again for a considerable time (as I have experienced).

When your Seed is fully ripe, you must cut it off; and, after drying it, thresh it out, and preserve it in Bags for Use.

But in planting of Cabbages for Seed, I would advise never to plant more than one Sort in a Place, or near one another: as for Example, never plant red and white Cabbages near each other, nor *Savoy* with either white or red Cabbages; for I am very certain they will, by the

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Commixture of their *Effluvia*, produce a Mixture of Kinds; and it is wholly owing to this Neglect, that the Gardeners rarely save any good red Cabbage-seed in *England*, but are obliged to procure fresh Seeds from abroad, as supposing the Soil or Climate of *England* alters them from Red to White, and of a mix'd Kind between both; whereas, if they would plant red Cabbages by themselves for Seeds, and not suffer any other to be near them, they might continue the Kind as good in *England*, as in any other Part of the World.

Cauliflowers have of late Years been so far improved in *England*, as to exceed in Goodness and Magnitude what are produced in most Parts of *Europe*, and, by the Skill of the Gardener, are continued for several Months together; but the most common Season for them is in *May, June, and July*. I shall therefore begin with Directions for obtaining them in this Season.

Having procured a Parcel of good Seed, of an early Kind, you must sow it on the 10th or 12th of *August*, upon an old Cucumber or Melon-bed, sifting a little Earth over the Seeds about a Quarter of an Inch thick; and if the Weather should prove extreme hot and dry, you should shade the Beds with Mats, to prevent the Earth from drying too fast, which would endanger the spoiling of your Seed; and give it gentle Waterings, as you may see Occasion: in about a Week's time your Seed will appear above-ground, when you must take off your Coverings by degrees; but do not expose your Plants too much to the open Sun at first: in about a Month's time after sowing, your Plants will be fit to prick out; you should therefore put some fresh Earth upon your old Cucumber or Melon-

B R

Melon-beds ; or, where these are not to be had, some Beds should be made with a little new Dung, which should be trodden down close, to prevent the Worms from getting through it ; but it should not be hot Dung, which would be hurtful to the Plants at this Season ; into which you should prick your young Plants, at about two Inches square, observing to shade and water them at first planting ; but do not water them too much after they are growing, nor suffer them to receive too much Rain, if the Season should prove wet, which would be apt to make them black-shank'd (as the Gardeners term it), which is no less than a Rottenness in their Stems, and is the Destruction of the Plants so affected.

In this Place they should continue till about the 19th or 20th Day of *October*, when they must be remov'd into the Place where they are to remain during the Winter-season, which, for the first sowing, is commonly under Bell or Hand-glasses, to have early Cauliflowers ; and these should be of an early Kind : but, in order to have a Succession during the Season, we should be provided with another more late Kind, which should be sown four or five Days after the other, and managed as was directed for them.

In order to have very early Cauliflowers, we should make choice of a good rich Spot of Ground, that is well defended from the North, East, and West Winds, with Hedges, Pales, or Walls : this Ground should be well trench'd, burying therein a good Quantity of rotten Dung ; then level your Ground ; and if it be naturally a wet Soil, you should raise it up in Beds about two Feet and an half, or three Feet broad, and four Inches above the Level of the Ground : but

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if your Ground is moderately dry, you need not raise it at all : then plant your Plants, allowing about two Feet six Inches Distance from Glass to Glass in the Rows, always putting two good Plants under each Glass, which may be at about four Inches from each other ; and if you design them for a full Crop, they may be three Feet and an half, Row from Row : but if you intend to make Ridges for Cucumbers or Melons between the Rows of Cauliflower-plants (as is generally practis'd by the Gardeners near *London*), you must then make your Rows eight Feet asunder.

When you have planted your Plants, if the Ground is very dry, you should give them a little Water, and then set your Glasses over them, which may remain close down upon them, until they have taken Root, which will be in about a Week or ten Days time, unless there should be a kindly Shower of Rain ; in which case you may set off the Glasses, that the Plants may receive the Benefit of it ; and, in about ten Days after planting, you should be provided with a Parcel of forked Sticks or Bricks, with which you should raise your Glasses about three or four Inches to the Southward, that your Plants may have free Air : in this manner your Glasses should remain over the Plants, Night and Day, unless in frosty Weather, when you should set them down as close as possible : or if the Weather should prove very warm, which many times happens in *November*, and sometimes in *December* ; in this Case, you should keep your Glasses off in the Day-time, and put them on only in the Night, lest, by keeping the Glasses over them too much, you should draw them into Flower at that Season ;
which

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which is many times the Case in mild Winters, especially if unskillfully managed.

Towards the Latter-end of *February*, if the Weather be mild, you should prepare another good Spot of Ground, to remove some of the Plants into, from under the Glasses, which should be well dung'd and trench'd (as before); then set off your Glasses; and, after making choice of one of the most promising Plants under each Glass, which should remain for good, take away the other Plant, by raising it up with a Trowel, &c. so as to preserve as much Earth to the Roots as possible; but have a great Regard to the Plant that is to remain, not to disturb or prejudice its Roots; then plant your Plants which you have taken out, at the Distance before directed; *viz.* If for a full Crop, three Feet and an half, Row from Row; but if for Ridges of Cucumbers between them, eight Feet, and two Feet four Inches Distance in the Rows: then with a small Hoe draw the Earth up to the Stems of the Plants which were left under the Glasses, taking great Care not to let the Earth fall into their Hearts: then set your Glasses over them again, raising your Props an Inch or two higher, to give them more Air, observing to take them off whenever there may be some gentle Showers, which will greatly refresh the Plants.

And, in a little time after, if you find your Plants grow so fast as to fill the Glasses, you should then slightly dig about the Plants, and raise the Ground about them in a Bed broad enough for the Glasses to stand, and about four Inches high, which will give your Plants a great deal of room, when the Glasses are set over them; and by this means they may be kept cover'd until *April*,

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which otherwise they could not, without Prejudice to the Leaves of the Plants: and this is a great Advantage to them; for many times we have Returns of severe Frosts at the Latter-end of *March*, which prove very hurtful to these Plants, if expos'd thereto, especially after having been nurs'd up under Glasses.

After you have finish'd your Beds, you may set your Glasses over your Plants again, observing to raise your Props pretty high, especially if the Weather be mild, that they may have free Air to strengthen them; and in mild soft Weather set off your Glasses, as also in gentle Showers of Rain: and now you must begin to harden them by degrees to endure the open Air; however, it is adviseable to let your Glasses remain over them as long as possible, if the Nights should be frosty, which will greatly forward your Plants: but be sure do not let your Glasses remain upon them in very hot Sun-shine, especially if their Leaves press against the Sides of the Glasses; for I have often observed, in such Cases, that the Moisture which hath risen from the Ground, together with the Perspiration of the Plants, which, by the Glasses remaining over them, hath been detained upon the Leaves of the Plant, and when the Sun hath shone hot upon the Sides of the Glasses, hath acquired such a powerful Heat from the Beams thereof, as to scald all their larger Leaves, to the no small Prejudice of the Plants: nay, sometimes I have seen large Quantities of Plants so affected herewith, as never to be worth any thing after.

If your Plants have succeeded well, toward the End of *April* some of them will begin to fruit: you must therefore look over them carefully every other Day; and when you see the

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the Flower plainly appear, you must break down some of the inner Leaves over it to guard it from the Sun, which would make the Flower yellow and unfightly; and when you find your Flower at its full Bigness (which you may know by its Outside parting, as if it would run), you must then draw it out of the Ground, and not cut it off, leaving the Stalk in the Ground, as is by some practised: and if they are designed for present Use, you may cut them out of their Leaves; but if design'd to keep, you should preserve their Leaves about them, and put them into a cool Place: the best time for pulling of them is in a Morning, before the Sun hath exhal'd the Moisture; for Cauliflowers pulled in the Heat of the Day lose that Firmness which they naturally have, and become tough.

But to return to our second Crop (the Plants being raised and managed as was directed for the early Crop, until the Middle or Latter-end of *October*); you must then prepare some Beds, either to be covered with Glass-frames, or arch'd over with Hoops, to be covered with Mats, &c. These Beds should have some Dung laid in the Bottom, about six Inches or a Foot thick, according to the Size of your Plants; for if they are small, the Bed should be thicker of Dung, to bring them forward, and so *vice versa*: this Dung should be beat down close with a Fork, in order to prevent the Worms from finding their Way through it; then lay some good fresh Earth about four or five Inches thick thereon, in which you should plant your Plants about two Inches and an half square, observing to shade and water them until they have taken fresh Root: but be sure do not keep your Coverings close; for the Warmth of the Dung

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will occasion a large Damp in the Bed, which, if pent in, will greatly injure the Plants.

When your Plants have taken Root, you must give them as much free open Air as possible, by keeping the Glasses off in the Day-time as much as the Weather will permit; and in the Night, or at such times as the Glasses require to be kept on, raise them up with Bricks to let in fresh Air, unless in frosty Weather; at which time the Glasses should be covered with Mats, Straw, or Peas-haulm, &c. but this is not to be done but in very hard Frosts: you must also observe to guard them against great Rains, which in Winter-time are very hurtful to them; and if the under Leaves grow yellow, and decay, be sure to pick them off; for if the Weather should prove very bad in Winter, so that you should be obliged to keep them close covered for two or three Days together, as it sometimes happens, these decay'd Leaves will render the inclos'd Air very noxious; and the Plants, inspiring pretty much at that time, are often destroyed in vast Quantities.

In the Beginning of *February*, if the Weather be mild, you must begin to harden your Plants by degrees, that they may be prepared for Transplantation; and the Ground where you intend to plant your Cauliflowers out for good (which should be quite open from Trees, &c. and rather moist than dry), having been well dung'd and dug, should be sown with Radishes a Week or Fortnight before you intend to plant out your Cauliflowers: the Reason why I mention the sowing of Radishes particularly, is this; *viz.* that if there are not some Radishes amongst them, and the Month of *May* should prove hot and dry, as it
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times happens, the Fly will seize your Cauliflowers, and eat them full of Holes, to their Prejudice, and sometimes their Destruction: whereas, if there are Radishes upon the Spot, the Flies will take to them, and never meddle with the Cauliflowers so long as they last: indeed, the Gardeners near *London* mix Spinach with their Radish-feed, and so have a double Crop; which is an Advantage where Ground is dear, or that Persons are streightened for room; otherwise it is very well to have only one Crop amongst the Cauliflowers, that the Ground may be clear'd in time.

Your Ground being ready, and the Season good, about the Middle of *February*, you may begin to plant out your Cauliflowers: the Distance which is generally allowed by the Gardeners near *London* (who plant other Crops between their Cauliflowers to succeed them, as Cucumbers for pickling, and Winter-cabbages) is every other Row four Feet and an half, and the intermediate Rows two and an half, and two Feet two Inches Distance in the Rows; so that in the Middle, or towards the Latter-end of *May* (when the Radishes and Spinach are cleared off), they put in Seeds of Cucumbers for Pickling, in the Middle of the wide Rows, at three Feet and an half apart; and in the narrow Rows, plant Cabbages for Winter-use, at two Feet two Inches Distance, so that these stand each of them exactly in the Middle of the Square between four Cauliflower-plants; and these, after the Cauliflowers are gone off, will have full room to grow, and the Crop be hereby continued in a Succession through the whole Season.

About three Weeks or a Month after your Cauliflowers are planted out, the Radishes between them will

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be fit to hoe; at which time, when you are hoeing out the Radishes, where they are too thick, you should cut off all such as grow immediately about the Cauliflowers, and would prove hurtful to them, by drawing them up tall and weak; and also at that time draw the Earth up to the Stems of the Plants, being careful not to let any get into their Hearts (as was before directed); and when your Radishes are fit to pull, be sure to clear round the Cauliflowers first, and keep drawing the Earth up to their Stems as they advance in Height; which will keep their Stems from being hardened by the Weather, and be of singular Service to your Plants.

There are many People, who are very fond of watering Cauliflower-plants in Summer; but the Gardeners near *London* have almost wholly laid aside this Practice, as finding a deal of Trouble and Charge to little Purpose; for if the Ground be so very dry as not to produce tolerable good Cauliflowers without Water, it seldom happens, that watering of them renders them much better; and when once they have been watered, if it is not constantly continued, it had been much better for them, if they never had had any; as also, if it be given them in the Middle of the Day, it rather helps to scald them: so that, upon the Whole, if Care be taken to keep the Earth drawn up to their Stems, and clear them from every thing that grows near them, that they may have free open Air, they will succeed better without than with Water, where these Cautions are not strictly followed.

When your Cauliflowers begin to fruit, you must often look over them, to turn down their Leaves, as was before directed, to preserve their Whiteness; and when they are full grown,

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grown, observe the former Directions in pulling them, &c. but where-ever you meet with an extraordinary good Cauliflower, whose Curd is hard and white, and perfectly free from any Frothiness about the Edges, you should suffer it to remain for Seed, keeping the Leaves close down upon it until the Flower hath shot out Stems, and then remove the Leaves from them by degrees; but do not expose them too much to the open Air at first. As the Stems advance, you must take the Leaves quite away; and when they begin to branch out, you should fix three pretty strong Stakes, at equal Angles, about it, surrounding them with Packthread, &c. to support their Branches, which would be otherwise liable to break with the Wind.

When your Pods begin first to be form'd, if the Weather be dry, you should give them a little Water all over (with a Watering-pot that hath a Rose to it); which will promote the Progress of the Seeds, and preserve them from the Mildew, which is often hurtful to these Seeds; and, when your Seed is ripe, you must cut it off, and hang it up to dry, and rub it out, as was directed for Cabbage-seed; and although your Flowers do not produce so much Seed as those which were of a softer or frothy Nature; yet the Goodness of such Seeds will sufficiently recompense for the Quantity; and any Person who was to purchase his Seeds, had better give ten Shillings an Ounce for such Seeds, than two for the Seeds commonly saved for Sale, as the Gardeners about London have experienced; who will never buy any Seeds of this Kind, if they do not know how they were saved.

But in order to have a third Crop of Cauliflowers, you should make a slender Hot-bed in February, in which

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you should sow the Seeds, covering them a quarter of an Inch thick with light Mould, and the Bed with Glass-frames: you should now-and-then gently refresh the Bed with Water, observing to raise the Glasses with Bricks in the Day time, to let in fresh Air; and when the Plants are come up, and have gotten four or five Leaves, you should prepare another Hot-bed to prick them into, at about two Inches square; and in the Beginning of April harden them by degrees, to fit them for transplanting, which should be done the Middle of that Month, at the Distance directed for the second Crop, and must be managed accordingly: these (if the Soil is moist where they are planted, or the Season cool and moist) will produce good Cauliflowers about a Month after the second Crop is gone, whereby their Season will be greatly prolonged.

There is also a fourth Crop of Cauliflowers, which is raised by sowing the Seed about the 12th of May; and being transplanted, as hath been before directed, will produce good Cauliflowers in a kindly Season, and good Soil, after Michaelmas, and continue through October and November, and, if the Season permit, often a great Part of December.

The Reason why I fix particular Days for the sowing of this Seed is, because two or three Days often make a great Difference in their Plants; and because these are the Days usually fixed by the Gardeners near London, who have found their Crops to succeed best when sown at those times, altho' one Day, more or less, will make no great Odds.

BREYNIA.

The Characters are;

It hath a Rose-flower, consisting of many Petals, which are placed in a circular Order, from whose Flower-
cup

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cup rises the Pointal; which afterward becomes a Fruit or Pod, which is soft and fleshy, in which are several kidney-shap'd fleshy Seeds.

The Species are;

1. BREYNIA *amygdalifolia latioribus.* Plum. Nov. Gen. Breynia with broad Almond-leaves.

2. BREYNIA *elæagni foliis.* Plum. Nov. Gen. Breynia with Leaves like those of the wild Olive.

Both these Plants are very common in *Jamaica*, and several other Parts of *America*, where they usually grow to the Height of thirty Feet: their Trunks are about the Thickness of a Man's Thigh, which are covered with a smooth ash-coloured Bark. The Branches come out on every Side, which form a regular Head; and being beset with hoary Leaves, make an agreeable Appearance.

These Plants are both very impatient of Cold; therefore must be preserved in Stoves, otherwise they will not live through the Winter in this Climate. They may be propagated by Seeds, which may be obtain'd from *America*. These Seeds should be sown on an Hot-bed early in the Spring; and when the Plants are come up two Inches high, they should be carefully transplanted each into a separate small Pot filled with light rich Earth, and then plunged into a moderate Hot-bed of Tanners Bark; observing to water and shade them until they have taken new Root: they must also be frequently watered during the Summer-season; and when the Plants have grown so much as to fill the Pots with their Roots, they should be carefully shaken out of them, and the Fibres round the Outside of the Ball of Earth should be carefully pared off, and then put into Pots a Size larger than those they were in be-

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fore; which should be filled with light rich Earth, and then plunged into the Hot-bed again, admitting fresh Air to them every Day. In this Bed they may remain until the End of September, when they must be placed in the Bark-stove: where, during the Winter-season, they should be kept in a temperate Heat, and must be often refreshed with Water; but it must not be given them in large Quantities at this Season.

As these Plants increase in Bulk, they should be placed in larger Pots; but you must be very careful not to over-pot them; which will cause the Plants to decline, and, if not timely remedied, will destroy them. In Summer these Plants should have a large Share of fresh Air, in warm Weather; but they must not be placed in the open Air; for if they are not constantly preserved from the Cold, it will destroy them in a short time. If these Directions are duly observed, the Plants will make great Progress, and, in a few Years, will produce Flowers.

BROOM, the common. *Vide* Cytiso-genista.

BROOM, the Spanish. *Vide* Spartium and Genista.

BRUNELLA, Self-heal.

The Characters are;

The Flowers grow in short compact Spikes, which consist of one Leaf, and are labiated (or lipp'd): the Crest, or upper Lip, is intire, and hollowed: the Beard, or lower Lip, is divided into three Segments: the middle Segment is broad, and hollow, like a Spoon, and is farther produced than the two other Segments, which are narrow: the Cup of the Flower hath two Lips; the upper being erect and trifid, and the lower is armed with two small Spines.

The Species are;

1. BRUNELLA *major, folio non dissecto.*

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dissecto. C. B. Common Self-heal, with whole Leaves.

2. BRUNELLA *major, folio non dissecto, flore albo*. C. B. Common Self-heal, with white Flowers.

3. BRUNELLA *folio laciniato*. C. B. Cut-leav'd Self-heal.

4. BRUNELLA *folio laciniato, flore albo*. H. R. P. Cut-leav'd Self-heal, with white Flowers.

5. BRUNELLA *cærulea, magno flore*. C. B. Large blue-flowered Self-heal.

6. BRUNELLA *hyssopifolia*. C. B. Narrow-leav'd Self-heal.

7. BRUNELLA *Alpina laciniata, flore magno*. Boerb. Ind. Large-flowered cut-leav'd Self-heal from the Alps.

8. BRUNELLA *folio verbenæ tenuifoliae*. Boerb. Ind. Self-heal with Leaves like the narrow cut-leav'd Vervain.

9. BRUNELLA *laciniata, flore elegantissime sulphureo*. Boerb. Ind. Cut-leav'd Self-heal, with fine sulphur-colour'd Flowers.

10. BRUNELLA *latifolia Italica, flore carneo*. Barrel. Broad-leav'd Italian Self-heal, with flesh-colour'd Flowers.

11. BRUNELLA *Novæ Angliæ major, foliis longius mucronatis*. Rand. New-England Self-heal, with long-pointed Leaves.

12. BRUNELLA *Caroliniana, magno flore dilute cæruleo, internodiis longissimis*. Rand. Carolina Self-heal, with large pale-blue Flowers, and long Spaces between the Joints of the Stalks.

These Plants may be any of them propagated by sowing their Seeds in the Spring of the Year, on a Bed of common Earth; and when they are come up, may be planted out in Borders in any shady Part of the Garden; where they will thrive, and many of them flower the same

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Year; but all of them the second; after which they seldom continue: therefore the Seeds of them must be sown yearly, for a fresh Supply.

The first Sort is used in Medicine, and is very common in divers Parts of England: the others are of foreign Growth; and altho' there is not a great deal of Beauty in them, yet some of the Varieties are worth cultivating, to add to the Diversity; especially since they require very little Culture.

BRUNSFELSIA.

The Characters are;

The Flower consists of one Leaf, shaped like a Funnel, which is tubulous, and cut into many Parts at the Top; from whose Calyx arises the Pointal, which afterward becomes a round soft fleshy Fruit, containing roundish Seeds between the Rind and the Flesh.

We have but one Species of this Plant; which is,

BRUNSFELSIA *flore albo, fructu croceo molli*. Plum. N. G. Brunfelsia with a white Flower, and a soft saffron-colour'd Fruit.

This Plant is very common in Barbados and Jamaica; but in Europe it is at present very rare: it may be propagated from Seeds, which should be sown early in the the Spring in Pots filled with light Earth, and plunged into an Hot-bed of Tanners Bark; observing to water the Earth as often as you find it necessary. When the Plants are come up, they should be transplanted each into a separate small Pot filled with fresh light Earth, and plunged into the Hot-bed again; observing to shade the Plants until they have taken Root; and they must be frequently refreshed with Water.

When the Plants have advanced to such an height as not to be contained

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tained in the Frames, they should be removed into the Bark-stove; where, during the Summer-months, they should have a large Share of free Air: but in Winter they must be kept very close. With this Management the Plants will be very strong, and produce their Flowers every Season. These Plants may also be increased by planting their Cuttings in the Spring, before they put out, in Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark; observing to water and shade them until they have taken Root; after which they must be managed as hath been directed for the Seedling-plants.

BRUSCUS. Vide Ruscus.

BRYONIA, Bryony.

The Characters are;

It hath a climbing Stalk with Spines: the Leaves are like those of the Vine: the Flowers consist of one Leaf, which is expanded at the Top, and divided into five Parts; and, in the Female Plants, are succeeded by round Berries growing on Foot-stalks: the Flowers of the Male Plants have five Apices in each; but are barren.

The Species are;

1. BRYONIA *aspera sive alba, baccis rubris.* C. B. The common white Bryony.

2. BRYONIA *Africana glabra, foliis in profundas lacinias divisis, flore luteo.* Olden. Smooth African Bryony, with deep-cut Leaves, and yellow Flowers.

3. BRYONIA *Americana, olivæ fructu rubro.* Plum. Cat. American Bryony, with a red olive-shap'd Fruit.

4. BRYONIA *Africana, fructu variegato.* Hort. Elth. African Bryony, with a variegated Fruit.

5 BRYONIA *Africana laciniata, tuberosa radice, floribus herbaceis.*

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Par. Bat. African cut-leav'd Bryony, with a tuberose Root, and herbaceous Flowers.

The first Sort grows upon dry Banks, under Hedges, in many Parts of *England*; but may be cultivated in a Garden, for Use, by sowing the Berries in the Spring of the Year, in a dry poor Soil; where they will, in two Years time, grow to be large Roots, provided they are not too thick. The Roots of this Plant have been formerly, by Impostors, brought into an human Shape, and carried about the Country, and shewn for Mandrakes to the common People, who were easily imposed on by their Credulity; and these got good Livings thereby. The Method which these People practis'd, was, to find a young thriving Bryony-plant; then they opened the Earth all round the Plant, being careful not to disturb the lower Fibres; and, being prepar'd with such a Mould, as is used by the People who make Plaster-figures, they fixed the Mould close to the Root, fastening it with Wire, to keep it in its proper Situation; then they filled the Earth about the Root, leaving it to grow to the Shape of the Mould, which in one Summer it will do; so that if this be done in *March*, by *September* it will have the Shape. The Leaves of this Plant are also often impos'd on the People in the Market for Mandrake-leaves, altho' there is no Resemblance between them, nor any Agreement in Quality.

The second and fifth Sorts are perennial Plants, their Roots remaining several Years; but their Branches decay every Winter. These Roots must be planted in Pots filled with fresh light Earth, and in Winter must be placed in the Green-house, to protect them from Frost, and great

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great Rains; which would destroy them, if they were exposed thereto. During the Winter-season they should have very little Water given them; but in Summer, when they are exposed to the open Air, they must be frequently refreshed with Water in dry Weather. These Plants will flower in *July*, and in warm Summers will perfect their Seeds.

The third and fourth Sorts are annual Plants: these must be raised on an Hot-bed early in the Spring, and when the Plants are about three Inches high, they should be each transplanted into a small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark; observing to water and shade them until they have taken Root. When the Plants are grown so large, as to ramble on the Surface of the Bed, and begin to entangle with other Plants, they should be shifted into larger Pots, and placed in the Bark-stove; where their Branches may be trailed to the Wall, or against an Espalier, that they may have Sun and Air; which is absolutely necessary for their producing Fruit. When these Plants are full of Fruit, they make a very pretty Variety in the Stove amongst other Exotic Plants.

The second and fifth Sorts are also propagated from Seeds, which should be sown on an Hot-bed; and when the Plants are fit to transplant, they should be put into Pots; and after they have taken Root, should be inured to bear the open Air by degrees; where they may remain during the Summer-season; but in Winter they must be sheltered.

The Bryony being Male and Female in different Plants, induced me to make some Experiments with it, to confirm my Opinion of the Ne-

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cessity of the Female Plant being impregnated by the Farina of the Male Plant, in order to render it fruitful. Accordingly I planted a Female Bryony in a Garden, wherein there was no Male Plant of that Kind, nor in any of the neighbouring Parts, as I could discover; but, contrary to my Expectation, this Plant produced ripe Fruit; which I sowed soon after it was ripe, and the Spring following I had a great Number of young Plants come up. The following Year I was more curious to try the Experiment, and examined all the neighbouring Parts again, to see if I could discover any Male Plants, but could not: yet the Success was the same as the former Year, and the Plants which arose from the Seeds grew very strong and vigorous. So that this, and many other Experiments, should be frequently repeated, and carefully examined, before we can pronounce any thing for Certainty concerning the Generation of Plants: but it frequently happens, that some of the Flowers upon the Female Plants are Hermaphrodite, which may account for their producing good Seeds: and this might have been the Case with my Plant; for I did not examine each Flower upon the Plant; therefore cannot affirm any thing for certain, more than is here related.

BRYONIA NIGRA. *Vide* Tannus.

BUCKSHORN, or HARTSHORN. *Vide* Coronopus.

BUDDING. *Vide* Inoculating.

BUGLOSSUM, Bugloss.

The Characters are;

It hath a multifid funnel-shaped Flower, consisting of one Leaf; from whose Empalement, which is cut to the Bottom, rises the Pointal, accompanied by four Embryoes; which

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afterward

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afterward become so many Seeds, which resemble a Viper's Head.

The Species are;

1. BUGLOSSUM *perenne majus sativum*. M. H. The Garden Buglofs.

2. BUGLOSSUM *sylvestre minus*. C. B. The lesser wild Buglofs.

3. BUGLOSSUM *latifolium semper-wirens*. C. B. The broad-leav'd ever green Buglofs.

4. BUGLOSSUM *Orientale, flore luteo*. T. Cor. The Eastern Buglofs, with yellow Flowers.

5. BUGLOSSUM *Creticum verrucosum perlatum quibusdam*. H. R. Par. Warted Buglofs from Crete.

6. BUGLOSSUM *angustifolium majus, flore albo*. C. B. P. Greater narrow-leav'd Buglofs, with a white Flower.

7. BUGLOSSUM *angustifolium majus, flore rubro aut variegato*. C. B. P. Greater narrow-leav'd Buglofs, with a red or variegated Flower.

8. BUGLOSSUM *foliis sinuosis*. C. B. P. Buglofs with sinuated Leaves.

9. BUGLOSSUM *sylvestre majus nigrum*. C. B. P. Greater wild black Buglofs.

10. BUGLOSSUM *Creticum majus, flore caeruleo purpurante*. H. R. Par. Greater Buglofs of Candy, with a blue Flower, inclining to a purple Colour.

11. BUGLOSSUM *Lusitanicum, echii folio undulato*. Inst. R. H. Portugal Buglofs, with an undulated Viper's Buglofs-leaf.

12. BUGLOSSUM *Creticum minimum odoratum, flore vario eleganti*. H. R. Par. The least sweet-scented Candy Buglofs, with an elegant Flower of various Colours.

13. BUGLOSSUM *Creticum humifusum acaulon perenne, echii folio angustissimo*. Tourn. Cor. Perennial Candy Buglofs, lying spread upon the

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Ground without Stalks, and with a very narrow Viper's Buglofs-leaf.

14. BUGLOSSUM *Samium frutescens, foliis rorismarini obscure virentibus, lucide hirsutis*. Tourn. Cor. Shrubby Buglofs from the Island of Samos, with Rosmary-leaves of a shining dark-green Colour, and hairy.

15. BUGLOSSUM *Orientale erectum, foliis undulatis, flore aeneo caeruleo*. Tourn. Cor. Upright Eastern Buglofs, with undulated Leaves, and a Flower of a beautiful blue Colour.

16. BUGLOSSUM *Orientale angustifolium altissimum*. Tourn. Cor. The tallest Eastern Buglofs, with narrow Leaves.

The first Sort is cultivated for its Flowers, which are used in Medicinal Cordials. The second Sort grows wild upon dry Banks in most Parts of England, and is sometimes used in Medicine. The third Sort is always green, and may have a Place in shady Wilderesses; but is not fit for a fine Garden. The fourth Sort is an abiding Plant, and may deserve a Place in a good Garden, for its long Continuance to flower. The fifth Sort is an Annual, and, if suffered to sow itself, will come up, and abide the Winter very well, and produce its small blue Flowers in the Spring. These two last, for their Variety, may have a Place in the Flower-garden, and the first Sort in the Physic-garden, for its Use.

The sixth and seventh Sorts are Varieties of the Garden Buglofs, which are preserved in Botanic Gardens: they may be propagated by Seeds, which should be sown in Autumn soon after they are ripe, when they more surely succeed than if sown in the Spring; or if the Seeds are permitted to scatter, and the Ground be kept clean from Weeds,

Weeds, the Plants will come up, and may afterward be transplanted into Beds, where they are designed to remain: these autumnal Plants will flower the next Summer, and, after the Seeds are perfected, the Plants generally decay; therefore a fresh Supply of Plants should be annually raised where these Plants are to be preserved.

The twelfth Sort is an annual Plant of an humble Growth, seldom rising above three or four Inches high: this produces pretty variegated Flowers of a sweet Scent, for which it is preserved by the Curious: if the Seeds of this Sort are sown in Autumn, the Plants will abide the Winter, and flower early the following Spring, so that good Seeds may be expected from them; and, if these Seeds are permitted to scatter, the Plants will come up better than if sown with Care, provided the Ground is kept clean from Weeds.

The thirteenth and fourteenth Sorts are perennial Plants, which are somewhat tenderer than either of the former. These are propagated by Seeds, which should be sown on a warm Border of fresh light sandy Earth, early in the Spring; and when the Plants begin to appear, you must carefully clear them from Weeds; and as they advance, so they should be thinned, to leave them about eighteen Inches asunder, which is all the Culture they will require. The second Year they will produce Flowers and Seeds, but will continue several Years after, especially if they are in a dry rubbishy Soil, which is poor: for in a moist rich Earth they will grow very luxuriant in Summer, but are generally destroyed with Rain and Frost in Winter. These generally send forth Tap-roots, which run

very deep in the Ground; so will not bear transplanting well, when they have acquired much Strength. The thirteenth Sort is a very low-spreading Plant; so should be allowed more room than the fourteenth, which grows upright; and becomes shrubby.

The fifteenth and sixteenth Sorts are biennial Plants, which seldom abide after they have perfected their Seeds, which is usually the second Year after they are sown. These Plants are propagated by Seeds, in the same manner as the common Bugloss; but should have a warmer Situation, and a drier Soil, otherwise they will not live thro' the Winter in this Climate; therefore it will be proper to plant a few of these Plants into Pots while they are young, that they may be sheltered under a common Frame in Winter; and if the Spring following they are shaken out of the Pots carefully, so as to preserve the Earth about their Roots and planted in a Bed of fresh Earth, they will grow much stronger, and produce a greater Number of Flowers, than if they remain in the Pots. But these Plants, having Tap-roots, will not bear transplanting any better than the two former Sorts. These will come up from the scattered Seeds in Autumn.

BUGULA, Bugle.

The Characters are;

It hath a Flower consisting of one Leaf, with one Lip divided into three Parts, the Middle of which is split into two: the Place of the Underlip is supplied by small Teeth: out of the Flower-cup rises the Pointal, fixed like a Nail into the hinder Part of the Flower, and attended, as it were, by four Embryoes, which afterward become so many oblong Seeds, shut up in an Husk, which before was

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the Flower-cup: to these Notes may be added, That the Flowers are placed in Whorles round the Stalks.

The Species are;

1. BUGULA. *Dod. pempt.* Common Bugle.

2. BUGULA *flore cinereo vel albo.* *Inst. R. H.* Bugle with a white or ash-colour'd Flower.

3. BUGULA *Alpina maxima.* *Inst. R. H.* The greatest Bugle of the Alps.

4. BUGULA *sylvestris villosa, flore cœruleo.* *Inst. R. H.* Hairy wood Bugle, with a blue Flower.

5. BUGULA *sylvestris villosa, flore suave-rubente.* *Inst. R. H.* Hairy wood Bugle, with a fine red Flower.

6. BUGULA *sylvestris villosa, flore albo.* *Inst. R. H.* Hairy wood Bugle, with a white Flower.

7. BUGULA *Samia verna, boraginifolia, flore inverso & cœruleo flavescente.* *Tourn. Cor.* Samian Spring Bugle, with a Borage-leaf, and an inverted Flower of a yellowish-blue Colour.

8. BUGULA *Orientalis villosa, flore inverso cœruleo, alba macula notato.* *Tourn. Cor.* Hairy Eastern Bugle, with an inverted blue Flower, spotted with White.

9. BUGULA *Orientalis villosa, flore inverso candido, cum oris purpureis.* *Tourn. Cor.* Hairy Eastern Bugle, with an inverted white Flower, edged with Purple.

10. BUGULA *Orientalis, flore ex violaceo purpurascente.* *Tourn. Cor.* Eastern Bugle, with a purplish violet-colour'd Flower.

11. BUGULA *Orientalis longifolia, flore majore intense cœruleo.* *Tourn. Cor.* Eastern Bugle, with a long Leaf, and a larger Flower, of an intense blue Colour.

The first and second Sorts grow wild in moist Woods and Meadows in most Parts of England, and con-

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tinue in Flower from May to July. These Plants propagate themselves greatly by their creeping Stalks, which send forth Roots at every Joint; so that where they have room to spread, they will make a great Increase; but they are seldom preserved in Gardens.

The Bugle is greatly esteemed as a vulnerary Herb, and is used both internally and externally; it enters as an Ingredient into the vulnerary Decoctions of the Surgeons, and is commended, externally applied to Ulcers: it is called *Consolida media*, or middle Consound.

The third, fourth, fifth, and sixth Sorts are preserved in Botanic Gardens for the sake of Variety: these are very hardy Plants, and propagate greatly by their trailing Stalks, as the common Sort. They must have a moist Soil, and a shady Situation, where they will thrive exceedingly, without any other Culture, but to keep them clear from Weeds.

The seventh, eighth, ninth, tenth, and eleventh Sorts were discovered by Dr. Tournefort in the Levant, who sent their Seeds to the Royal Garden at Paris, where they were propagated first in Europe, and from thence several other Gardens have been supplied with these Plants. They may be propagated by Seeds, which should be sown on a shady Border, and a light moist Soil, early in the Spring; and when the Plants begin to appear, they should be carefully cleared from Weeds, and in dry Weather must be frequently watered, otherwise they will not make any great Progress. When the Plants have acquired Strength enough to be removed, they should be transplanted, some into Pots, and the rest into a shady moist Border, where they may remain to flower.

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Those which are put into Pots should have a shady Situation during the Summer-season, and must be frequently watered in dry Weather; but in Winter they should be placed under an Hot-bed-frame, where they may be protected in sharp Frosts; but in mild Weather they should have as much free Air as possible; for they are so hardy, as to endure the Cold of our ordinary Winters very well in the open Air, without any Shelter.

These Plants may also be multiplied by parting of their Roots in the Spring, after the manner of the Auricula; but you must be careful not to part them too small, lest you destroy them; for if each Head hath not good Roots, they seldom succeed, so that they are not to be increased very fast in this Method.

BULBOCASTANUM, Earth-nut, or Pig-nut.

The Characters are;

It is an umbelliferous Plant, with a rose shaped Flower, consisting of many Leaves placed orbicularly, and sitting on the Empalement; which turns to a Fruit composed of small oblong smooth Seeds, which are sometimes chanelled, gibbous on one Side, but plain on the other: to these Notes must be added, A fleshy tuberous Root.

The Species are;

1. **BULBOCASTANUM majus**, folio apii. C. B. P. Greater Earth-nut, with a Parsley-leaf.

2. **BULBOCASTANUM minus saxatile**, peucedani folio. Tourn. Smaller rock Earth-nut, with a Swines-fennel-leaf.

3. **BULBOCASTANUM majus Alpinum**, pastinacæ folio. Tourn. Greater Alpine Earth-nut, with a Parsnep-leaf.

4. **BULBOCASTANUM tenuiter incisio folio**, Lusitanicum. Tourn. Por-

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tugal Earth-nut, with a fine-cut Leaf.

5. **BULBOCASTANUM Creticum**, radice napiformi. Tourn. Cor. Candy Earth-nut, with a Navew-root.

6. **BULBOCASTANUM Creticum**, ferulæ folio, semine oblongo. Tourn. Cor. Candy Earth-nut, with a Giant-fennel leaf, and oblong Seeds.

The first Sort is very common in shady Woods and Pastures in divers Parts of England: it rises early in the Spring, and flowers in May. In July the Seeds are ripe, soon after which time the green Leaves begin to decay, which is the proper Season to take up the Roots for Use, because they may be more readily found before their Leaves are quite decayed; and if they are taken up, while the Plants are in Vigour, the Roots will be small, and not near so firm. Some People dig up these Roots, and eat them raw, which taste very much like Chestnuts, and are no unpleasant Morsel; but when they are boiled, they are very delicious Food, eaten with Butter and Pepper, and are esteemed very nourishing.

The other Sorts are not Natives of England; so are rarely to be found, except in Botanic Gardens, where they are preserved for the sake of Variety, more than any Beauty there is in their Appearance.

They are all very hardy Plants in respect to Cold; so may be easily propagated by sowing their Seeds on a moist shady Border, soon after they are ripe. for if they are kept out of the Ground till Spring, they seldom succeed so well as when they are sown in Autumn. When the Plants appear in the Spring, they must be carefully cleared from Weeds; and where they are too near, they should be thinned, so as to leave them three

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or four Inches asunder; after this they will require no other Culture, but to keep them clear from Weeds; for they do not bear transplanting; so must be sown where they are to remain. The Autumn following the Roots will be fit for Use, and will continue good all the Winter, till they shoot up their Stems in the Spring for Seed; after which time they are tough, and not fit for eating.

BULBOCODIUM.

The Characters are;

The Flowers consist of one Leaf, and are divided into six Segments, being in Shape like the Crocus-flower: the Leaves are very long and narrow: the Root consists of solid Bulbs, one over the other, which are closely joined.

We have but one Species of this Plant in the English Gardens; which is,

BULBOCODIUM croci folio, flore parvo violaceo. T. Cor. Bulbocodium with Leaves like the Saffron, and small violet-colour'd Flowers.

This Plant is cultivated after the manner of the Spring Crocus's; viz. by parting its Bulbs, or sowing the Seeds: it is commonly three or four Years before it comes to flower from Seed; but as it increases but slowly by the Root, we must sow the Seeds, if we intend to have a Stock of this Plant; it flowers in April, and the Seeds are ripe in June, and should be sown soon after in Pots of common Earth, where they should remain two Years undisturb'd, and then may be planted out into a Border, at about three Inches square, where they may stand to flower: it is also very probable, that some other Colour may be obtained by sowing the Seeds, as we find is often the Case with most other Bulbs, when raised from Seeds.

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BUPHTHALMUM, Ox-eye.

The Characters are;

The whole Face of this Plant is like Tansey: the Flowers, which are radiated, are, for the most part, produced simply: the Florets of the Disk are separated with an imbricated little Leaf.

The Species are;

1. *BUPHTHALMUM tanacetii minoris folio. C. B.* The common Ox-eye, with Leaves like Tansey.

2. *BUPHTHALMUM Orientale, tanacetii minoris folio, flore luteo amplissimo. T. Cor.* The Eastern Ox-eye, with large yellow Flowers.

3. *BUPHTHALMUM Orientale, tanacetii minoris folio, flore albo amplissimo. T. Cor.* The Eastern Ox-eye, with large white Flowers.

4. *BUPHTHALMUM tanacetii minoris folio incano, flore sulphureo amplissimo. Boerb. Ind.* Ox-eye with hoary Tansey-leaves, and large sulphur-colour'd Flowers.

5. *BUPHTHALMUM Creticum, cotulae folio. Breyn. Cent. 1.* Ox-eye from Crete, with a Mayweed-leaf.

The first of these Plants is mentioned by Mr. Ray as a Native of England, but is rarely found wild with us. The next two were found by Mons. Tournefort, in the Levant. These are propagated by sowing their Seeds in March, in a Bed of light Earth; and when they are come up, may be transplanted into Borders of the Flower-garden, or into little Wilderness-quarters. These Plants continue flowering almost all the Summer long; for which they deserve a Place in every good Garden. The Flowers are very proper to gather for Flower-pots, to adorn Rooms and Chimneys in the Summer-season.

They delight in a dry Soil, and such as is not much dunged; and may also be increased by parting their

their Roots at *Michaelmas*; or early in the Spring.

The fourth Sort was sent from *Austria* to the learned Dr. *Boerhaave* at *Leyden*: This is so nearly akin to the two Eastern Sorts, as not to be distinguished therefrom, but by their hoary Leaves, and the Colour of the Flower: it must be treated in the same manner as hath been directed for them.

The fifth Sort is an annual Plant: this is propagated from Seeds, which should be sown on a Bed of light fresh Earth; and when the Plants are come up two Inches high, they should be transplanted where they are to remain to flower, where they must be allowed at least a Foot, to spread their Branches: they require no other Care, but to keep them clear from Weeds: in *July* they will flower, and in Autumn they perfect their Seeds. Some Botanic Authors have mentioned three or four Varieties of this Plant, one with a naked Flower, another with very small Rays, and one with large Rays; but these Varieties will all come from the same Seeds, as I have frequently experienced.

BUPLEUROIDES. Vide *Phillis*.

BUPLEURUM, Hare's-ear.

The Characters are;

The Leaves grow alternately upon the Branches; and, for the most part, surround the Stalk, having no Foot-stalk: the Seeds are oblong, smooth, and furrow'd.

The Species are;

1. *BUPLEURUM folio rigido*. C. B. P. Stiff-leav'd Hare's ear.
2. *BUPLEURUM folio subrotundo*, five *vulgatissimum*. Tourn. The most common round-leav'd Hare's-ear.
3. *BUPLEURUM annuum angustifolium*. Bot. Monsp. Narrow-leav'd annual Hare's ear.

4. *BUPLEURUM annuum minimum angustifolium*. H. R. Par. The least narrow-leav'd annual Hare's ear.

5. *BUPLEURUM angustissimo folio*. C. B. P. Very narrow-leav'd Hare's-ear.

6. *BUPLEURUM perfoliatum rotundifolium annuum*. Tourn. Annual round-leav'd Hare's-ear, commonly called Thorough-wax.

7. *BUPLEURUM perfoliatum longifolium annuum*. Tourn. Annual long-leav'd perfoliated Hare's-ear.

8. *BUPLEURUM montanum latifolium*. Tourn. Broad-leav'd mountain Hare's-ear.

9. *BUPLEURUM montanum, flosculis exiguis*. Tourn. Mountain Hare's-ear, with small Flowers.

10. *BUPLEURUM Alpinum latifolium minus*. Tourn. Smaller broad-leav'd Hare's-ear of the Alps.

11. *BUPLEURUM Alpinum angustifolium majus*. Tourn. Greater narrow-leav'd Hare's-ear of the Alps.

12. *BUPLEURUM Alpinum angustifolium minus*. Tourn. Smaller narrow-leav'd Hare's-ear of the Alps.

13. *BUPLEURUM montanum, gramineo folio*. Tourn. Mountain Hare's-ear, with a Grass-leaf.

14. *BUPLEURUM Hispanicum arborescens, gramineo folio*. Tourn. Spanish Tree Hare's-ear, with a Grass-leaf.

15. *BUPLEURUM Hispanicum fruticosum aculeatum, gramineo folio*. Tourn. Prickly Spanish Shrub Hare's-ear, with a Grass-leaf.

16. *BUPLEURUM Lusitanicum, gramineo longiori & rigidissimo folio*. Tourn. Portugal Hare's-ear, with a long rigid Grass-leaf.

17. *BUPLEURUM Orientale angustifolium, semine longiori*. Tourn. Cor. Narrow-leav'd Eastern Hare's-ear, with a longer Seed.

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18. *BUPLEURUM arborescens, folio salicis. Tourn. Seseli Æthiopicum, frutex. Dod.* The shrubby Hartwort of *Ethiopia*.

19. *BUPLEURUM foliis radicalibus pinnato-incisis, caulinis fasciculatis quadragenis. Flor. Leyd.* Shrubby Hare's-ear, with the lower Leaves winged, and the upper Leaves square, growing in Bunches.

The fifth and sixth Sorts are Natives of *England*, and grow on cultivated Places amongst the Corn in several Counties. The sixth Sort is placed amongst the medicinal Plants in the College Dispensatory; but is rarely used, though it has been formerly esteemed as a vulnerary Herb.

All these Sorts, excepting the fourteenth, fifteenth, and eighteenth, are annual Plants, which are extremely hardy, and may be propagated by sowing their Seeds in Autumn, upon a Bed of fresh Earth, in almost any Situation; but they thrive best in the Shade. When the Plants are come up, they should be thinned where they come up too thick, and cleared from Weeds, which is all the Culture these Plants require; for if they are permitted to shed their Seeds, the Plants will come up, and maintain themselves without any Care.

The fourteenth and fifteenth Sorts are perennial Plants, which rise to the Height of five or six Feet: these may be propagated by sowing their Seeds on a shady Border in the Spring, or in Pots soon after they are ripe in Autumn: these Pots may be put under a common Hot-bed-frame in Winter, and the Seeds will come up better than those sown in the Spring: when the Plants are two Inches high, they may be transplanted, some of them into Pots

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filled with light Earth, and others into a shady Border, where, if they are duly watered, and kept clear from Weeds, they will thrive very well: those planted in Pots should be sheltered in Winter, and the others may be left abroad, where, in the ordinary Winters, they will abide very well, but in severe Frost they are often destroyed; therefore some Plants of each Sort should always be kept in Pots, and sheltered from the Cold.

The eighteenth Sort is a shrubby Plant, commonly growing to the Height of six or seven Feet, and divides into many Branches: the Leaves, which are ever-green, are somewhat like those of the broad-leav'd Willow, but much thicker: this Shrub is hardy, and will endure our severest Winters in the open Air, provided it is planted in a dry Soil: this may be propagated by Cuttings, which will take Root, if they are planted the Latter-end of *August*, or the Beginning of *September*, on a shady Border, and constantly watered in dry Weather: these will be well rooted by the following Autumn, and may then be transplanted where they are to remain.

The nineteenth Sort grows to the Height of four or five Feet, and becomes shrubby: the under Leaves of this are cut and divided into several Lobes, like many of the umbelliferous Plants; but these soon fall away; so that they are not frequently observed; but the upper Leaves have a great Resemblance, at first Sight, to those of the Horsetail: this Sort may be propagated by Seeds, or planting Cuttings, during any of the Summer-months; the latter Method is usually practised in *England*, because the Seeds are not

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not often perfected: the Plants must be housed in Winter with Orange-trees, &c. for they are too tender to live abroad in Winter in this Country.

BURNET. *Vide* Pimpinella.

BUTOMUS, The Flowering-rush, or Water-gladiole.

The Characters are;

The Leaves are triangular and grassy: the Stalks are naked: the Flowers are disposed in an Umbel upon the Top of the Stalk; and each consists of six Leaves: three of them are large, and three small, which are expanded in form of a Rose.

The Species are;

1. BUTOMUS *flore roseo*. Tourn. The rose-colour'd Flowering-rush.
2. BUTOMUS *flore albo*. Tourn. The white Flowering-rush.
3. BUTOMUS *flore saturate purpureo*. Boerb. Ind. The deep purple-colour'd Flowering-rush.

The first of these Varieties is pretty common in Standing-waters, in many Parts of England; the other two are Varieties of this, tho' less common with us: these Plants may be propagated in boggy Places, or by planting them in Cisterns, which should be kept filled with Water, that should have about a Foot Thickness of Earth in the Bottom: these, tho' common Plants, yet produce very pretty Flowers, and are worth propagating for Variety-sake, especially if in any Part of the Garden there should be Convenience for an artificial Bog, or where there are Ponds of Standing-water, as is many times the Case, and Persons are at a Loss what to plant in such Places, that may appear beautiful; whereas, if these, and a few more wild Plants, which naturally grow in such Places, were taken into the Garden, they would have a very good Effect.

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BUXUS, The Box-tree.

The Characters are;

The Leaves are pennated, and ever-green: it hath Male Flowers, which are produced at remote Distances from the Fruit on the same Tree: the Fruit is shaped like a Pottage-pot inverted, and is divided into three Cells, containing two Seeds in each, which, when ripe, are cast forth by the Elasticity of the Vessel.

The Species are;

1. BUXUS *arborescens*. C. B. The Box-tree.
2. BUXUS *arborescens angustifolia*. The narrow-leav'd Box-tree.
3. BUXUS *foliis ex luteo variegatis*. H. R. Par. Striped Box.
4. BUXUS *major, foliis per limbum aureis*. H. R. Par. The gold-edg'd Box-tree.
5. BUXUS *humilis*. Dod. The Dwarf Box.
6. BUXUS *humilis, foliis variegatis*. The Dwarf striped Box.
7. BUXUS *major, foliis per limbum argenteis*. The silver-edged Box.

The first and second Sorts grow in great Plenty upon Box-hill near Dorking in Surry, where were formerly large Trees of these Kinds; but of late they have been pretty much destroyed; yet there are great Numbers of the Trees remaining, which are of a considerable Bigness. The Wood of this Tree is very useful for Turners, Engravers, and Mathematical-instrument-makers, the Wood being so hard, close, and ponderous, as to sink in Water, which renders it very valuable for divers Utensils.

All the Varieties of the Tree or large Box are proper to intermix in Clumps of Ever-greens, &c. where they add to the Variety of such Plantations:

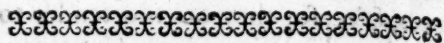
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Plantations: these may be propagated by planting the Cuttings in Autumn in a shady Border, observing to keep them watered until they have taken Root; when they may be transplanted into Nurseries, till they are fit for the Purposes intended. The best Season for removing these Trees is in *October*, tho' indeed, if Care be used to take them up with a good Ball of Earth, they may be transplanted almost at any time, except in the Summer: these Trees are a very great Ornament to cold and barren Soils, where few other things will grow: they may also be propagated by laying down the Branches, or from Seeds: the last being the best Method to have them grow to be large, the Seeds must be sown soon after they are ripe in a shady Border, which must be duly watered in dry Weather.

The Dwarf Kind of Box is used for bordering of Flower-beds, or Borders; for which Purpose it far exceeds any other Plant, it being subject to no Injuries from Cold or Heat, and is of a long Duration, is very easily kept handsome, and, by the Firmness of its Rooting, keeps the Mould in the Borders from washing into the Gravel-walks more effectually than any Plant whatever: this is increased by parting the Roots, or planting the Slips; but as it makes so great an Increase of itself, and so easily parts, it is hardly worth while to plant the Slips that have no Roots; but it is now become so common, that it may be purchased from the Nurseries at a cheap Rate.

The manner of planting this in Edgings, &c. is so well understood by every working Gardener, that it would be needless to mention any thing of that kind here.

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C A A P E B A.

The Characters are;

It hath a Rose-flower, consisting of four Leaves, which are placed orbicularly, but are sterile; from the Middle arises the Pointal, which is plain, round, and umbilicated: the Embryoes grow at a separate Distance on the same Plants, which afterward become soft spherical Berries, including rough Seeds.

The Species are;

1. CAAPEBA *folio orbiculari & umbilicato lævi.* Plum. Nov. Gen. Caapeba with a round umbilicated Leaf.

2. CAAPEBA *folio orbiculari umbilicato tomentoso.* Plum. Nov. Gen. Caapeba with a round woolly umbilicated Leaf.

3. CAAPEBA *folio orbiculari non umbilicato.* Plum. Nov. Gen. Caapeba with a round Leaf, not umbilicated.

These Plants are Natives of the warmest Parts of *America*, where they twist themselves round whatever Trees or Shrubs grow near them, and sometimes rise to the Height of six or seven Feet: they are propagated by Seeds, which should be sown in Pots filled with fresh light Earth, early in the Spring: these Pots must be plunged into a moderate Hot-bed of Tanners Bark, and must be frequently refreshed with Water.

When these Plants are come up about an Inch in Height, they should be transplanted into small Pots filled with light rich Earth, and plunged into the Hot-bed again, observing

observing to water and shade them until they have taken new Root ; after which time the Glasses should be raised in warm Weather every Day, to admit fresh Air to the Plants, and they must be frequently refreshed with Water. During the Summer-season they may remain in the Hot-bed ; but at *Michaelmas* they must be removed into the Bark-stove, where they should have a moderate Degree of Heat, and must be frequently refreshed with Water. The second Year some of the strongest Plants will flower, and will continue several Years after.

CABBAGE. *Vide* Brassica.

CACALIANthemum. *Vide* Kleinia.

CACALIA.

This Plant hath no *English* Name.

The Characters are ;

It hath a flosculus Flower, consisting of many Petals, divided into four Parts, sitting on the Embryo, and contained in an almost cylindrical Empalement : the Embryo afterward becomes a Seed, furnished with Down.

The Species are ;

1. CACALIA *tomentosa*. C. B. P. Woolly Cacalia.

2. CACALIA *foliis crassis hirsutis*. C. B. P. Cacalia with thick hairy Leaves.

3. CACALIA *foliis cutaneis acutioribus & glabris*. C. B. P. Cacalia with smooth-pointed Leaves.

4. CACALIA *Pyrenaica, alliariae folio*. Tourn. Pyrenean Cacalia, with an Alliarial-leaf.

5. CACALIA *Alpina, foliis utrinque denso & candidissimo tomento obsitis*. Tourn. Cacalia of the Alps, whose Leaves are covered on both Sides with a thick white Down.

6. CACALIA *Virginiana glabra, foliis deltoidibus sinuatis subtus glaucis*. Moris. Smooth Virginian Cacalia, with sinuated Leaves, which

are of a sea-green Colour on their Under-side.

7. CACALIA *foliis rotundioribus, ad caulem sessilibus*. Mor. Cacalia with round Leaves sitting close to the Stalk.

8. CACALIA *Americana procerior, folio triangulari per basin auriculato, floribus albis*. Taller American Cacalia, with a triangular Leaf, ear'd at the Bottom, and white Flowers.

The five Sorts first-mentioned are Natives of the Alps, and Pyrenean Mountains, as also of some mountainous Places in Austria, from whence they have been procured by some Persons who are curious in Botany ; but they have little Beauty ; so are rarely to be found in other Gardens. The sixth and eighth Sorts are Natives of Virginia, and other of the Northern Parts of America, from whence their Seeds have been brought into the English Gardens.

These two Sorts greatly multiply by their creeping Roots ; so that if they are not kept within proper Limits, they will soon over-run the Garden : therefore they should only have a Place in some abject Part of the Garden, as they are Plants of little Beauty.

The eighth Sort has increased so fast, both by Roots and Seeds, as that, in a few Years, it may be taken for a native Plant ; for where it has been thrown out of the Gardens, it has taken Root, and propagated ; and from Roots thrown out of the Physic-garden, which have been carried by the Tide of the River to a great Distance, they have fastened to the Banks, where they grow and spread very fast.

They are all of them very hardy Plants in respect to Cold ; therefore they must have a cool shady Situation, and should be planted in a strong fresh Earth, which has not been

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been dunged : they may be propagated by parting of their Roots in Autumn ; and require no other Culture but to keep them clear from Weeds, and in very dry Weather to water them two or three times a Week.

They may also be propagated by Seeds ; but should be sown as soon as possible after they are ripe ; for they will not grow, if they are kept long out of the Ground. These Seeds should be sown in Pots filled with fresh loamy Earth, and placed in a shady Situation. In Autumn they must be transplanted into a shady Border, at about two Feet apart, where they may remain to flower.

CACAO, The Chocolate-nut.

The Characters are ;

It hath a Rose-flower, consisting of a great Number of Petals, from whose many-leav'd Empalement arises the Pointal, which is a Tube cut into many Parts, which afterward becomes a Fruit shaped somewhat like a Cucumber, and deeply furrowed, in which are contained several Seeds, collected into an oblong Head ; and are slit down somewhat like Almonds.

We have but one Species of this Plant ; which is,

CACAO. *Clus. Exot.* The Chocolate-nut-tree.

This Tree is a Native of America, and is found in great Plenty in several Places between the Tropics, but particularly at Carracca and Carthagena, on the River Amazons, in the Isthmus of Darien, at Honduras, Guatimala, and Nicaragua. At all these Places it grows wild, without Culture ; but it is cultivated in many of the Islands which are possessed by the French and Spaniards, and was formerly planted in some of the Islands which are in the Possession of the English ; but it has been neglected for many Years past, so that at

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present it is so scarce in those Places, that the English are supplied with it by the French and Spaniards, who make the Inhabitants pay them a good Price for it ; and as there is a great Quantity of it consumed by the English, consequently it must make an Alteration in the Balance greatly to the Prejudice of the English ; which might be easily remedied, if the Planters in our Colonies were industrious to propagate it ; since, as it formerly grew on those Islands, so as to produce not only a sufficient Quantity for their own Consumption, but to supply England with great Quantities, there can be no Objection to the planting it in those Islands again.

In order to cultivate this Plant in Europe, by way of Curiosity, it will be necessary to have the Nuts planted into Boxes of Earth (in the Countries where they grow) soon after they are ripe ; because, if the Nuts are sent over, they will lose their growing Quality, before they arrive. These Boxes should be placed in a shady Situation, and must be frequently watered, in order to forward the Vegetation of the Nuts. In about a Fortnight after the Nuts are planted, the Plants will appear above-ground ; when they should be carefully watered in dry Weather, and protected from the violent Heat of the Sun, which is very injurious to these Plants, especially while they are young. When the Plants are grown strong enough to transport, they should be shipped, and placed where they may be screen'd from strong Winds, salt Water, and the violent Heat of the Sun. During their Passage they must be frequently refreshed with Water ; but it must not be given them in great Quantities, lest it rot the tender Fibres of their Roots, which will destroy the Plants ;

Plants; and when they come into a cool Latitude, they must be carefully protected from the Cold; at which time they will not require so frequently to be watered: for in a moderate Degree of Heat, if they have gentle Waterings twice a Week, it will be sufficient.

When the Plants arrive in *England*, they should be carefully taken out of the Boxes, and each transplanted into a separate Pot filled with light rich Earth, and plunged into a moderate Hot-bed of Tanners Bark; being careful to cover the Glasses in the Heat of the Day, to screen the Plants from the Sun: they must also be frequently watered; but it must be done with Caution, not to rot their Roots. In this Hot-bed the Plants may remain till *Michaelmas*, when they must be removed into the Bark-stove, and plunged into the Tan, in the warmest Part of the Stove. During the Winter-season the Plants must be frequently refreshed with Water; but it must be given to them in small Quantities: yet, in Summer, they will require a more plentiful Share. These Plants are too tender to live in the open Air in this Country, even in the hottest Season of the Year; therefore must constantly remain in the Bark-stove; observing, in very warm Weather, to let in a large Share of fresh Air to them, and in Winter to keep them very warm. As the Plants increase in Bulk, they should be shifted into larger Pots; in doing of which, there must be particular Care taken not to tear or bruise their Roots, which often kills the Plants; nor must they be placed in Pots too large; because that is a slow, but sure Death to them. The Leaves of these Plants must be frequently washed, to clear them from Filth; which they are subject to contract by remaining con-

stantly in the House; and this becomes an Harbour for small Insects, which will infest the Plants, and destroy them, if they are not timely washed off. If these Rules are duly observed, the Plants will thrive very well, and may produce Flowers in this Climate: but it will be very difficult to obtain Fruit from them; for, being of a very tender Nature, they are subject to many Accidents in a cold Country.

CACHRYS.

We have no *English* Name for this Plant.

The Characters are;

The Flowers grow on an Umbel, which consist of many Petals ranged circularly, and expand in form of a Rose: these rest on the Empalement, which turns to a Fruit composed of two Parts, which are half oval, sometimes smooth, and sometimes rough and channelled; containing Seeds which resemble Barley-corns.

The Species are;

1. CACHRYS *semine fungoso sulcato aspero, foliis ferulaceis.* Mor. Umb. Cachrys with a fungous furrowed round Seed, and Fennel-giant-leaves.

2. CACHRYS *semine fungoso sulcato aspero, foliis peucedani latiusculis.* Mor. Umb. Cachrys with a fungous furrowed rough Seed, and broadish Hogs-fennel-leaves.

3. CACHRYS *semine fungoso sulcato plano majore, foliis peucedani angustis.* Mor. Hist. Cachrys with larger plain furrowed fungous Seed, and narrow Hogs-fennel-leaves.

4. CACHRYS *semine fungoso sulcato plano minore, foliis peucedani.* Mor. Umb. Cachrys with smaller plain furrowed fungous Seed, and Hogs-fennel-leaves.

5. CACHRYS *Hungarica, panacis folio.* Tourn. Hungarian Cachrys, with an All-heal-leaf.

6. CACHRYS *foliis peucedani, semine fungoso sulcato aspero minori.* Tourn. Cachrys with Hogs-fennel-leaves, and a small rough fungous Seed.

7. CACHRYS *Cretica, angelicæ folio, asphodeli radice.* Tourn. Candy Cachrys, with an Angelica-leaf, and an Asphodel-root.

8. CACHRYS *Orientalis, ferulæ folio, fructu alato plano.* Tourn. Cor. Eastern Cachrys, with a Fennel-giant-leaf, and a plain winged Seed.

These Plants are all propagated by Seeds, which should be soon after they are ripe; for if they are kept out of the Ground until the following Spring, they often miscarry; and when they succeed, they never come up until the Spring after; so that by sowing them in Autumn a whole Year is saved, and the Seeds seldom miscarry. These Seeds should be sown on a shady Border, where the Plants are to remain; for the Plants, having long Tap-roots, will not bear transplanting so well as many other Kinds. The Distance to be observed for the sowing of their Seeds should be two Feet apart; so that if each Kind is sown in a Drill, when the Plants are come up, they may be thinned; leaving two or three of the most promising Plants of each Kind to remain. These Plants will begin to appear early in April, when they must be carefully cleared from Weeds; and in dry Weather they should be gently watered, which greatly promotes their Growth the first Year; after which time, they will require no farther Care but to keep them clean from Weeds, and every Spring to dig the Ground carefully between them.

These Plants decay to the Ground every Autumn, and come up again in the Spring: they commonly flower in the Beginning of May, and their

Seeds are ripe in August: their Roots sometimes run down three or four Feet deep in the Earth, provided the Soil be light, and are often as large as Parsneps: they will continue many Years; and if the Soil is moist and rich, they will annually produce good Seeds: but when they grow on a dry Soil, the Flowers commonly fall away, and are not succeeded by Seeds.

There is but little to be said of the Uses of this Genus of Plants: the Hungarians in the Neighbourhood of Erlaw, and those who border on Transylvania, Servia, &c. eat the Root of the fifth Species, in a Scarcity of Corn, for want of other Bread.

CACTUS, Melon-thistle, *vulgo.*

The Characters are;

The Flower rests upon the Embryo, and is tubulous, being divided at the Brim into several Segments: these are spread open: the Empalement consists of one Leaf: in the Centre of the Flower are placed six long Stamina, which reach to the Upper-part of the Flower: the Embryo afterward becomes a taper pulpy Berry, which is narrowed at the Base; having one Cell, which is filled with small Seeds.

The Species are;

1. CACTUS *quatuordecim-angularis subrotundus.* Lin. Hort. Cliff. The large roundish Melon-thistle, with fourteen Angles.

2. CACTUS *quinquedecim-angularis, angulis in spiram contortis, spinis erectus.* Large Melon-thistle, with fifteen Angles, which are twisted like a Screw, and the Thorns growing upright.

3. CACTUS *quatuordecim-angularis subrotundus, spinis longis recurvis albidis.* Large Melon-thistle, with fourteen Angles, and long white Thorns, which are recurved.

4. *CACTUS quinquedecim-angularis rotundus, spinis creberrimis corallinis latis & recurvis.* Large Melon-thistle, with fifteen Angles, and broad recurved Thorns, which are of a red Colour.

5. *CACTUS subrotundus testus tuberculis ovatis barbatis.* Lin. Hort. Cliff. Small Melon-thistle.

6. *CACTUS proliferus subrotundus testus tuberculis ovatis lanuginosis, spinis albis erectus.* Small Melon-thistle, with white upright Thorns, and thrusting out young Plants from the Sides, with a downy Substance between the Knobs.

These Plants are Natives of the *West-Indies*, where there are more Sorts than are here enumerated, if Persons of Skill were to examine those Islands. There have been about four of the large Kinds brought to *England*, some of which have been crowned with a prickly brown Cap, in form of one of those Fur-caps which are worn by the *Turks*, and others which have been destitute of these Caps, although the Plants were full as large as those which had them: therefore they may be deemed distinct Species, especially since these have been many Years preserved in the Gardens, and no Appearance of any Caps as yet can be seen. Those which have these Caps produce their Fruit in Circles round the Upper-part of the Cap; whereas the smaller Sorts produce their Fruit from between the Tubercles, round the Middle of the Plant: and in some Figures of the larger Sorts of these Plants, the Fruit is represented as coming out near the Crown of the Plant; so that if a skilful Botanist was to examine these Plants in the Places of their Growth, there would probably be found a much greater Variety of these Plants, than is at present known.

Some of the large Plants which have been brought to *England*, have been more than a Yard in Girt, and near two Feet high, including their Caps; but I have been informed, by several Persons who have resided in the *West-Indies*, that there are Plants near twice as large.

The fourth Sort was brought into *England* by the late Dr. *William Houstoun*, who procured the Plants from *Mexico*; but as they were long in their Passage, and had received Wet, they were decayed before they arrived in *England*; but from the Remains of them which were left, they appeared to be the most singular of all the Species yet known. This has two Orders of Thorns; one of which are strait, and set on at the Joints in Clusters, spreading out from the Centre each Way like a Star; and in the Middle of each Cluster is produced one broad flat Thorn, near two Inches in Length; which stands erect, and is recurved at the Point, and is of a brownish-red Colour. These Thorns are, by the Inhabitants of *Mexico*, set in Gold or Silver, and made use of for picking their Teeth; and the Plant is by them called *Visnaga*, i. e. Tooth-pick.

The Sort with spiral Ribs, as also that with white Spines, I received from *Antigua*, with the common Sort; but whether these are only accidental Varieties, arising from the same Seeds, or real different Species, I cannot take upon me to determine, since in this Country they are very rarely propagated by Seeds; nor could I observe, in the several Years when I had these Plants under my Care, there was the least Disposition in either of them to produce Fruit; when, at the same time, the common large Sort produced plenty of Fruit out of their Caps every Year;

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from the Seeds of which I have raised some young Plants: but although some of these have grown to a considerable Size, yet none of them have as yet produced Caps; therefore no Fruit can be yet expected from them.

The fifth Sort produces Quantities of Fruit annually; and as the Seeds grow very readily, it is now very common in those Gardens where there are Stoves to keep them: for if the Fruit is permitted to drop upon the Earth of the Pots, and that is not disturbed, there will plenty of Plants come up without any farther Trouble; and these Seedling-plants may be taken up, as soon as they are of a proper Size to remove, and planted six or seven of them into a small Halfpeny Pot, where they may stand one Year; by which time, they will be large enough to be each planted into a separate Pot; and afterward they will make great Progress, especially if they are plunged into an Hot-bed of Tanners Bark in Summer: for although this Sort is much more hardy than the large Kind, and may be preserved in a moderate Stove, yet the Plants will not make near the Progress as those which are kept in a greater Degree of Heat. This Sort will continue many Years with proper Care; and the Plants will grow to be a Foot high, or more; but when they are so tall, the Lower-part of them is not so tightly; their Green being decayed, and the Spines changed to a dark-dirty Colour, they appear as if dead: so that the Upper-part of these old Plants only seem to have Life; whereas the Plants of middling Size appear healthy from Top to Bottom. The Flowers of this Sort appear in *July* and *August*; and these are succeeded by the Fruit quite round the Plant, which are of a fine scarlet Colour, and continue

fresh upon the Plants through the Winter; which renders them very beautiful at that Season. And in the Spring, when the Fruit shrivels, and becomes dry, the Seeds will be ripe, and may then be rubbed out, and sown upon the Surface of the Earth in small Pots; which should be plunged into an Hot-bed of Tanners Bark to bring up the Plants.

The sixth Sort is rarely larger than the fifth, growing nearly in the same Form; but this produces a great Number of young Plants from the Sides, by which it is increased. This Sort produces Tufts of a soft white Down, between the Knobs at every Joint; which makes the whole Plant appear as if it was covered with fine Cotton. The Flowers of this Sort are produced from between the Knobs, round the Sides of the Plants; which are in Shape and Colour very much like those of the fifth Sort, but larger. These Flowers are not succeeded by any Fruit; at least, all those which I have under my Care, have not produced any, altho' they have produced plenty of Flowers for some Years: but from the same Places where the Flowers have appeared, there have been young Plants thrust out the following Season. These young Plants I have taken off, and after laying them to dry for two or three Days, I have planted them, and they have succeeded very well.

All the Species of this Genus are Plants of a singular Structure; but especially the larger Kinds of them, which appear like a large fleshy green Melon, with deep Ribs, set all over with strong sharp Thorns; and when the Plants are cut thro' the Middle, their Inside is a soft green fleshy Substance full of Moisture. And I have been assured by Persons of Credit, who have lived in the *West-Indies*, that in Times of great Drought,

Drought, the Cattle repair to the barren Rocks, which are covered with these Plants, and after having ripped up the large Plants with their Horns, so as to tear off the outside Skin with the Thorns, they have greedily devoured all the fleshy moist Parts of the Plants; which has afforded them both Meat and Drink: but how any Animal should ever attack Plants, which are so well defended by strong Thorns, which are as hard and stiff as Whalebone, or any other bony Substance, is difficult to conceive: nor could any thing but Distress for Moisture ever have tempted them to venture amongst these troublesome Plants to search for Relief; since they must encounter with many Difficulties, before they could find a Method of dislodging the Thorns.

The Fruit of all the Sorts of Melon-thistles are frequently eaten by the Inhabitants of the *West-Indies*: there is scarce any Difference in the Fruits of all the Kinds I have yet seen, either in Size, Shape, Colour, or Taste. They are about three Quarters of an Inch in Length, of a taper Form, drawing to a Point at the Bottom, toward the Plant; but blunt at the Top, where the Empalement of the Flower was situated. The Taste is an agreeable Acid, which, in an hot Country, must render the Fruit more grateful.

All the Sorts of these Plants require a very good Stove to preserve them through the Winter in *England*; nor should they be exposed to the open Air in Summer; for altho' they may continue fair to outward Appearance, when they have been some time expos'd abroad, yet they will imbibe Moisture, which will cause them to rot soon after they are removed into the Stove. And this is frequently the Case of those Plants

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which are brought from abroad, which have a fair healthy Appearance many times at their first Arrival, but soon after decay; and this will happen very suddenly; scarce any Appearance of Disorder will be seen, till the whole Plant is killed; which in a few Hours time has often been the Fate of these Plants.

If these Plants are plunged into an Hot-bed of Tanners Bark in Summer, it will greatly forward them in their Growth; but when this is practised, there should be scarce any Water given to the Plants; for the Moisture which they will imbibe from the Fermentation of the Tan, will be sufficient for them, and more would cause them to rot. The best Method to preserve all the large Kinds is, in Winter, to place the Pots, either upon the Top of the Flues, or, at least, very near them, that they may have the warmest Place of the Stove; and during that Season, never to give them any Water: but when the Season comes for leaving out the Fire in the Stove, to remove them into a Bed of Tanners Bark: which will soon set them in a growing State, and recover their Verdure. The Soil in which these should be planted, must be of a sandy Nature; and if mixed with some dry Lime-rubbish, it will be still better. In the Bottom of the Pots should be placed some Stones, in order to drain off any Moisture which may be in the Earth: for as these Plants naturally grow upon the hot dry burning Rocks, which have no Earth, and, were it not for these Plants, would be absolutely barren, we must imitate their natural Soil as near as possible, making some Allowance for the Difference of the Climates.

The great Sorts may be propagated by Seeds; which must be sown
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and managed, as hath been directed for the smaller Sort: but as the Plants which are raised from Seeds in *England*, will be some Years in arriving to any considerable Size, it will be much the best Way to procure some Plants from the *West-Indies*; and if the Plants arrive here in any of the Summer-months, so as that there may be time for them to get new Root before the Cold comes on in Autumn, the Plants will more certainly succeed. When the Plants come over, it will be proper to take them out of the Earth as soon as possible, and lay them in the Stove, upon the Shelves, to dry for three or four Days; and when they are planted, they should be plunged into a good warm Bed of Tanners Bark, to promote their making new Roots. In this Bed they may remain till the Beginning of *October*, when they must be removed into the Stove, and treated in the manner before directed.

CÆSALPINA.

We have no *English* Name for this Plant.

The Characters are;

It hath a Flower of an anomalous Figure, consisting of one Leaf, which is divided into four unequal Parts: the Upper-part is large, and hollowed like a Spoon: from the Bottom of the Flower arises the Pointal, amongst many incurved Stamina, which afterward becomes a Pod, including oblong Seeds.

We have but one Sort of this Plant; viz.

CÆSALPINA *polyphylla, aculeis borrida.* Plum. Nov. Gen. Many-leav'd Cæsalpina, with large Thorns.

This Plant is a Native of *America*, where it rises to the Height of fourteen or sixteen Feet; the Trunk and Branches being armed with very strong Thorns, makes it difficult to

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pass where they are in plenty. It was found at *Campechy* by the late Dr. *Houfoun*, who sent the Seeds into *England*, from which some of these Plants were raised.

This Plant is propagated by Seeds, which should be sown in small Pots filled with light rich Earth early in the Spring, and plunged into an Hot-bed of Tanners Bark. In about two Months after, the Plants will begin to appear, when they must be carefully clear'd from Weeds, and frequently refreshed with Water; and, in warm Weather, the Glasses of the Hot-bed should be raised in the Middle of the Day, to admit fresh Air to the Plants, which will greatly strengthen them. When the Plants are about three Inches high, they should be carefully taken out of the Pots, and each transplanted into a separate small Pot filled with fresh light Earth, and plunged into the Hot-bed again; observing to water them, and screen them from the Heat of the Sun, until they have taken new Root. In this Hot-bed the Plants may remain until they reach the Glasses, when they will be in Danger of being scorched by the Sun, which will retard their Growth: therefore they should be removed into the Stove, and plunged into the Bark-bed, where they may have room to grow. These Plants, being tender, should always be kept in the Bark-stove, and have a moderate Share of Heat in the Winter; and being placed among other tender Exotic Plants of the same Country, will afford an agreeable Variety.

CAINITO. Vide Chrysophyllum.

CAKILE, Sea rocket.

The Characters are;

It hath a cross-shaped Flower, consisting of four Petals, from whose Cup arises the Pointal, which afterward becomes

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becomes a Fruit, resembling the Point of a Spear, and is jointed; in each of which Divisions is lodged one Seed, which is, for the most part, oblong.

The Species are;

1. *CAKILE maritima, ampliore folio.* Tourn. Cor. Sea-rocket with a larger Leaf.

2. *CAKILE maritima, angustiore folio.* Tourn. Cor. Sea-rocket with a narrow Leaf.

3. *CAKILE Græca arvensis, filiqua striata brevi.* Tourn. Cor. Greek Sea-rocket, with a short striated Pod.

4. *CAKILE Orientalis, fructu minimo verrucoso.* Tourn. Cor. Eastern Sea-rocket, with a small warted Fruit.

The two first Sorts grow wild in divers Parts of *Europe* on the Sea-shore, where the Salt-water generally flows. The second Sort is pretty common in *England*; but the first hath not been found wild in this Country. The third and fourth Sorts were discover'd by Dr. *Tournefort*, who sent their Seeds to the Royal Gardens at *Paris*.

They are all annual Plants: their Seeds should be sown in Autumn, soon after they are ripe, in the Place where they should remain; for they do not well bear transplanting. When the Plants are come up, they should be kept clear from Weeds; and where they are too close, they must be thinned, so as to leave them four or five Inches asunder, which is all the Culture they require. In *June* they will flower, and their Seeds will ripen in *August*. There is no Beauty or Use in these Plants at present known; but they are preserved in Botanic Gardens for Variety.

CALABA, Indian Mastich-tree.

The Characters are;

It hath a rosaceous Flower, consisting of several Petals, which are

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placed in a circular Order; from whose Flower-cup arises the Pointal, which afterward becomes a spherical fleshy Fruit, including a Nut of the same Form.

We know but one Sort of this Plant; which is,

CALABA folio citrii splendente. Plum. N. G. 39. Indian Mastich-tree, with a shining Citron-leaf.

This Tree grows to a great Bigness in the warm Parts of *America*, where it is a Native. From the Trunk and Branches there issues out a clear Gum, somewhat like the Mastich, from whence it received its Name, the Gum being used in those Countries as Mastich.

At present this Tree is pretty rare in *England*, it being so tender as not to bear the open Air; so that it must be preserved in Stoves, with the most tender Exotic Plants. It is propagated by the Nuts, which are frequently brought from *America*: these should be planted in small Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark. When the Plants are come up about two Inches high, they should be carefully transplanted, each into a separate small Pot filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark, observing to water and shade them until they have taken new Root; and give them frequent Waterings in warm Weather. In this Bed they may remain during the Summer-season; but at *Michaelmas* they should be removed into the Bark-stove, and placed in a warm Situation. During the Winter-season these Plants will require Water pretty often; but it should not be given to them in large Quantities, especially in cold Weather, lest it rot the Fibres of the Roots. As the Plants advance, they must be shifted into larger Pots, and treated

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in the same manner as is directed for the Coffee-tree ; with which Management this Plant will thrive very well : and as the Leaves of these Plants are large, strong, and of a shining-green Colour, they make a pretty Appearance in the Stove, with other tender Exotic Plants.

CALAMINTHA, Calamint.

The Characters are ;

It hath a long tubulous Flower, which opens at the Top into two Lips : the Upper-lip or Crest is roundish, and divided into two Segments : the Lower-lip or Beard is divided into three : these Flowers are produced from the Joints of the Stalks at the setting on of the Leaves, in Bunches, upon pretty long Pedicles, or Footstalks.

The Species are ;

1. CALAMINTHA *vulgaris, vel officinarum Germanice. C.B.* The common Calamint.

2. CALAMINTHA *pulegii odore, foliis laticribus. H. L.* Broad-leav'd Calamint, with a Pennyroyal-smell.

3. CALAMINTHA *magno flore. C. B.* Calamint with large Flowers.

4. CALAMINTHA *incana, ocymifoliis. C. B.* Hoary Calamint, with Leaves like Basil.

5. CALAMINTHA *Hispanica frutescens, mari folio. Inst.* Shrubby Spanish Calamint, with a Marum-leaf.

6. CALAMINTHA *Cretica, angustoblongo folio. Inst. R. H.* Candy Calamint, with a narrow oblong Leaf.

The first of these Sorts is found wild in many Parts of England ; but may be propagated in Gardens, by sowing the Seeds in Spring, or parting the Roots : it will grow in almost any Soil or Situation. This is the Sort commonly used in Medicine ; though the second Sort hath of late prevailed in the Markets. The second and third Sorts may be propagated in the same manner as

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the first, and are equally as hardy. The fourth Sort is somewhat tenderer, and should be kept in Pots, and shelter'd in Winter : this is increased either by Seeds, or by planting Cuttings in any of the Summer-months.

The fifth Sort has been known in the Gardens, by the Name of Marum with a Pennyroyal-scent. This is usually preserved in Pots, and sheltered in Winter under a common Hot-bed-frame : for in severe Frost it will not live in open Air ; but in moderate Winters it will live abroad in a warm Situation. This Plant seldom rises above six Inches high ; the Stalks commonly decay to the Root in the Winter ; but in Summer they grow ligneous, and are beset with small hoary Leaves by Pairs ; and the small white Flowers come out in Whorles round the Stalks : this Plant will ripen Seeds very well, by which the Plant may be easily propagated, as also by Cuttings, in any of the Summer-months.

The sixth Sort will live abroad in mild Winters ; but in severe Frosts is often destroyed : therefore, to maintain the Sort, there should be one or two Plants sheltered in Winter : this is easily propagated by Seeds.

CALCEOLUS, Ladies-slipper.

The Characters are ;

It hath an anomalous Flower, consisting of six dissimilar Leaves, four of which are placed in the Form of a Cross : the other two possess the Middle, one of which is bifid, and rests upon the other, which is swelling, and shaped like a Shoe : the Empalement becomes a Fruit, open on three Sides, to which adhere the Valves, pregnant with very small Seeds like Dust.

The Species are ;

1. CALCEOLUS *Marianus. Dod.* Ladies-slipper.

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2. *CALCEOLUS flore majore. Tourn.*
Ladies-slipper with a large Flower.

3. *CALCEOLUS Marianus Canadensis. Cornut. Canady* Ladies-slipper.

4. *CALCEOLUS Mariæ luteus. Mor. H. R. B.* The yellow Ladies-slipper.

The first Species grows wild in the North of *England*, and in *Scotland*; from whence the Plants may be procured. The best Season for transplanting of them is in Autumn, just as the Leaves decay, when the Roots should be carefully taken up with a large Ball of Earth to them, and must be planted in a strong loamy Soil, and in a shady Situation; where, if they are suffered to remain undisturbed, they will produce their beautiful Flowers in *May*, and may be preserved several Years; but if they are placed in a warm rich Soil, they will not thrive, and rarely produce any Flowers.

The second Sort is not a Native of *England*, but is equally hardy with ours; so that, if Roots can be procured from abroad, they must be treated in the same manner as hath been directed for that.

The third Sort is found in *New-England, Virginia*, and *North-Carolina*, in moist Woods, from whence these Roots may be procured. These must have a moist shady Situation, and in Winter should be screened from severe Frosts, otherwise they cannot be preserved in this Country: for altho' they are found wild in Countries where they have much colder Winters; yet growing in the Woods, they are covered with Leaves, and are protected by the Trees; so that the Frost doth not penetrate very deep into the Earth.

All these Plants should be placed in a shady Situation, and in dry Weather must be frequently watered, otherwise they will not thrive; for

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they generally grow on moist springy Soils, and where they are shaded with Trees; so that where there is not particular Care to keep them moist during their Season of Growth, they seldom thrive in Gardens.

CALENDULA, African Marigold.

The Characters are;

It hath a radiated compound Flower, composed of several Hermaphrodite and Female Flowers: the Hermaphrodite Flowers, which are situated in the Middle, and compose the Disk, are tubulous, and slightly cut into five Parts at the Top: these have each five short Stamina attending the Pointal: the Female Flowers have each a Part stretched out on one Side, shaped like a Tongue, which forms the Rays: these are situated on the Border of the Flower: the Hermaphrodite Flowers are succeeded by flat heart-shaped Seeds; and the Seeds of the Female Flowers are angular and irregular.

The Species are;

1. *CALENDULA humilis Africana, flore intus albo, foris violaceo, simplicis. H. L.* Low African Marigold, with Flowers which are purple on the Outside, and white within.

2. *CALENDULA foliis radicalibus sinuatis caulinis superne denticulatis. Flor. Leyd.* African Marigold, with the lower Leaves sinuated, and the upper Leaves indented.

3. *CALENDULA foliis linearibus denticulatis & integerrimis. Flor. Leyd.* African Marigold, with Crocus-leaves.

4. *CALENDULA foliis obverse ovatis denticulatis, caule fruticoso perenni. Flor. Leyd.* Shrubby perennial African Marigold, with oval indented Leaves.

These Plants were generally ranged with the common Marigold by most Writers, till Monsieur *Vaillant*,

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Professor of Botany at *Paris*, separated them from that Genus, and constituted a Genus for them, stiling it *Dimorphotheca*; and since it has been by others titled *Cardispermum*, from this Figure of the Seeds: but Dr. *Linnaeus* has brought them back again, and included the common Marigold in the same Genus with these. But if the Seeds are admitted as a characteristical Note in the constituting a Genus, these Plants should be separated from the common Marigold. But as they are near akin, I have left the common Marigold under the Title of *Caltha*, and have applied the old Title of *Calendula* to these Plants.

The two first Species are annual, so are commonly sown in Patches upon the Borders of the Pleasure-garden, in *April*; and when the Plants come up, they will require no other Culture, but to draw out the Plants where they grow too close, and keep them clear from Weeds: for, as they do not bear transplanting well, the Seeds should be sown in the Places where they are designed to remain. In *June* the Plants will begin to flower, and will continue six Weeks or longer producing fresh Flowers, especially if the Season is not too warm; and in the Latter-end of *August* the Seeds will begin to ripen; at which time they should be gathered every Week as they ripen, otherwise they will fall on the Ground, and, the first moist Weather, will vegetate, and be spoiled. These Plants were brought from the *Cape of Good Hope*; but are so hardy, as to thrive well in the open Ground, and are now become pretty common in the *English* Gardens, and their Seeds may be procured from those Gardeners who are curious in Plants and Flowers.

The other two Sorts are perennial

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Plants, which were also brought from the *Cape of Good Hope*. The third Sort has been many Years an Inhabitant of the curious Gardens in *Europe*; but the fourth Sort hath not been long introduced into the Gardens in *Holland*, from whence I was supplied with it by my worthy Friend Dr. *Van Royen*, Professor of Botany at *Leyden*.

The third Sort is a Plant of humble Growth, never rising with a Stem, but puts out Side-shoots near the Surface of the Ground, much in the same way as Thrift: these are cloathed with long narrow grassy Leaves, which are intire; and from the Centre of each Head the Flowers are produced singly upon long Foot-stalks. These are larger than the Flowers of either of the annual Kinds, but are much of the same Form and Colour: they are generally in Flower in *May*; but very often there are some few Flowers produced again in Autumn, and sometimes in the Winter, in a favourable Season: but it never produces any Seeds in *England*. This Plant is propagated by the Heads, which may be cut off during the Summer-season, and planted in Pots filled with light rich Earth, and plunged into an old Hot-bed, where the Heat is past, and shaded from the Sun until they have taken Root, after which they may be exposed in the open Air till Autumn, when these Plants must be removed into an airy Glass-case, where they may be secured from Frost in Winter; but should have as much free Air as possible in mild Weather: for if they are kept too warm, they are apt to grow weak, and seldom continue long; and, if they receive any Damp, they are apt to grow mouldy in the Winter, which frequently causes them to rot; so that these

Plants

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Plants cannot have too much Air in mild Weather; but they must be guarded against Frost.

The fourth Sort hath long trailing Shoots, which extend to the Length of three or four Feet; but are too weak to support themselves, so require to be tied up to Stakes; for the Leaves, being pretty thick and succulent, weigh down the Branches, when they are not supported: the Flowers are produced singly from the Ends of the Shoots, but not at any particular Season, some coming out in the Spring and Summer, others in Autumn and Winter: these are in Shape and Colour very like those of the first Sort.

This Plant is very easily propagated by Cuttings, during any of the Summer - months: if they are planted upon an old Hot-bed, and shaded and watered, they will take Root in about six Weeks time, when they should be planted each into a separate Pot filled with light Earth; and after they have taken fresh Root, they may be placed in an open Situation, where they may have the Sun during the Summer - season; but in Winter they must be screened from the Frost, and have as much free Air as possible in mild Weather; so that if they are placed in an airy Glass-case with the former Sort in Winter, and exposed with other Exotic Plants from the same Country in Summer, they will thrive extremely well.

CALF's-SNOUT. *Vide* Antirrhinum.

CALTHA, Marigold.

The Characters are;

It hath a radiated discous Flower: the Petals of the Flower are, for the most part, crenated: the Seeds are crooked and rough: those which are outermost are long, and those within are short: the Leaves are long, intire, and succulent.

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The Species are;

1. *CALTHA vulgaris, flore citrino.*
C. B. The common Marigold.
2. *CALTHA vulgaris, flore pallido.* C. B. The pale-colour'd Marigold.
3. *CALTHA polyanthos major.* C. B. The large double Marigold.
4. *CALTHA polyanthos maxima.* C. B. The largest double Marigold.
5. *CALTHA minima.* J. B. The smallest Marigold.
6. *CALTHA media, folio longo, prolifera.* Boerb. Ind. The childing Marigold.
7. *CALTHA polyanthus major, flore aureo.* C. B. P. Large double gold-colour'd Marigold.
8. *CALTHA floribus reflexis.* C. B. P. Marigold with a reflexed Flower.
9. *CALTHA flore mixto.* H. R. Par. Party-colour'd Marigold.

These are all of them annual Plants, which perish soon after they have perfected their Seeds; but if they are permitted to scatter, will come up abundantly, and become troublesome Weeds. But in order to keep the Sorts distinct, you should carefully save the Seeds of each, and sow them in the Spring, especially the largest, double, the party-colour'd, and childing Kinds, which are often kept in Gardens for the Beauty of their Flowers: the others are only sowed for Pot-herbs. The seventh and ninth Sorts are very pretty annual Plants; these may be sown on a Bed or Border in the Spring, where they are designed to remain; for they seldom thrive well when they are transplanted: a few Plants of each of these large double Kinds of Marigolds may have a Place in large open Borders, where the most hardy Kinds of Flowers, which require little Culture, are usually planted, in which they will make an agreeable Variety.

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In saving the Seeds of these Kinds, there should be particular Care taken to make choice of the most double Flowers, and those which are of the brightest Colours.

The common Marigold is sometimes used in Medicine; but the Flowers are frequently used in the Kitchen, for both which Purposes the single Flowers are to be preferred, having a much better Scent, and add a stronger Flavour to the Soups.

These Kinds are very subject to vary, especially if the Seeds are not very carefully saved; and if the Seeds are often changed from one Garden to another, at some Distance, it will be a means to preserve the Varieties better.

CALTHA PALUSTRIS. *Vide* Populago.

CAMARA. *Vide* Lantana.

CAMERARIA.

We have no *English* Name for it.

The Characters are;

The Empalement of the Flower is divided into five sharp Segments: the Flower is tubulous, consisting of one Leaf, which opens at the Top, and is divided into five Parts: the Pointal arises from the Bottom of the Tube, having a double Germen, and is attended by five Stamina, which are small: the Germen afterward becomes a double Pod, inclosing many small Seeds, which lie over each other like Scales.

The Species are;

1. CAMERARIA *lato myrti folio*. *Plum. Nov. Gen.* Cameraria with a broad Myrtle-leaf.

2. CAMERARIA *angusto linariae folio*. *Plum. Nov. Gen.* Cameraria with a narrow Toadflax-leaf.

These Plants are both Natives of the warmest Parts of *America*. The first Sort grows plentifully in the Island of *Cuba*, from whence my

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late learned Friend Dr. *William Hous-*
toun brought the Seeds into *England*. This is a low Shrub, seldom rising above four or five Feet high, and produces its Flowers at the Ends of the Branches, in small Umbels: the Leaves and Branches of this Plant, when broken, emit a milky Juice, which is acrid, and near of Kin to the Dog's-bane.

The second Sort grows plentifully in the Island of *Jamaica*; as also in some of the *French* Islands. This grows taller than the first Sort; but the Stem is not so woody.

These Plants are propagated by Seeds, which must be procured from the Places of their Growth; for they do not perfect their Seeds in *England*. They may also be propagated by Cuttings planted in an Hot-bed during the Summer-months: they must have a Bark-stove; for they are very tender Plants; but in warm Weather must have Plenty of Air.

CAMPANULA, Bell-flower.

The Characters are;

The Flower consists of one Leaf; is shaped like a Bell; and is, before blown, of a pentagonal Figure; and, when fully opened, is cut into five Segments at the Top: the Seed-vessel is, for the most part, divided into three Cells, each having an Hole at the Bottom, by which the Seed is emitted.

The Species are;

1. CAMPANULA *pyramidata altissima*. *Tourn.* The tallest pyramidal Bell-flower.

2. CAMPANULA *persicaefolia Lobelii*, *flore caerulea*. *Mor. Hist.* The blue peach-leav'd Bell-flower.

3. CAMPANULA *persicaefolia*, *flore albo*. *Mor. Hist.* The white peach-leav'd Bell-flower.

4. CAMPANULA *persicaefolia*, *flore pleno*. *Tourn.* The double peach-leav'd Bell-flower.

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5. *CAMPANULA persicæfolia*, flore albo pleno. Tourn. The double white peach-leav'd Bell-flower.

6. *CAMPANULA hortenſis*, flore & folio oblongo. C. B. Garden Bell-flower, with oblong Leaves and Flowers, commonly called Canterbury Bells.

7. *CAMPANULA hortenſis*, flore & folio oblongo, flore albo. C. B. White Canterbury Bells.

8. *CAMPANULA hortenſis*, flore & folio oblongo, flore variegato. The ſtriped Canterbury Bells.

9. *CAMPANULA vulgatioꝝ*, foliis urticæ, vel major & aſperior, flore duplici cæruleo majore. Boerb. Ind. Large nettle-leav'd Bell-flower, with large double blue Flowers.

10. *CAMPANULA vulgatioꝝ*, foliis urticæ, vel major & aſperior, flore duplici albo. H. R. Par. Large nettle-leav'd Bell-flower, with double white Flowers.

11. *CAMPANULA Canarienſis*, atriplicis folio, tuberoſa radice. Tourn. Canary Bell-flower, with Orach-leaves, and a tuberofe Root.

12. *CAMPANULA minor Americana*, foliis rigidis, flore cæruleo patulo. H. L. Dwarf American Bell-flower, with rigid Leaves, and blue Flowers.

13. *CAMPANULA minor Americana*, foliis rigidis, flore albo. H. L. B. Dwarf American Bell-flower, with rigid Leaves, and white Flowers.

14. *CAMPANULA radice eſculenta*, flore cæruleo. H. L. Blue Bell-flower, with edible Roots, commonly called Rampions.

15. *CAMPANULA arvenſis procumbens*. Inſt. R. H. Venus's Looking-glaſs, vulgo.

16. *CAMPANULA arvenſis erecta*. H. L. Upright Venus's Looking-glaſs.

17. *CAMPANULA arvenſis erecta*, flore albo. Inſt. R. H. Upright Ve-

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nus's Look-glaſs, with a white Flower.

18. *CAMPANULA arvenſis procumbens*, flore albo. H. L. Venus's Looking-glaſs with a white Flower.

19. *CAMPANULA maxima*, foliis latiffimis, flore cæruleo. C. B. P. Greateſt Bell-flower, with broad Leaves, and a blue Flower, commonly called Giant Throatwort.

20. *CAMPANULA maxima*, foliis latiffimis, flore albo. C. B. P. Greateſt Bell-flower, with broad Leaves, and a white Flower.

21. *CAMPANULA pratensis*, flore conglomerato. C. B. P. Little Throatwort, or Canterbury Bells, vulgo.

22. *CAMPANULA pratensis*, flore conglomerato albo. H. R. Par. Little Throatwort, or Canterbury Bells, with a white Flower.

23. *CAMPANULA foliis echii*, floribus villoſis. C. B. Bell-flower with Leaves like Vipers-bugloſs, and hairy Flowers.

24. *CAMPANULA foliis anchusæ*, floribus oblongis. C. B. Bell-flower with Leaves like Alkanet, and longiſh Flowers.

25. *CAMPANULA nemoroſa anguſtifolia*, magno flore, major. Inſt. R. H. Greater wood Bell-flower, with a narrow Leaf, and large Flower.

26. *CAMPANULA nemoroſa anguſtifolia*, parvo flore. Inſt. R. H. Narrow-leav'd wood Bell-flower, with a ſmall Flower.

27. *CAMPANULA minor rotundifolia vulgaris*. C. B. Common ſmall round-leav'd Bell-flower.

28. *CAMPANULA pentagonia perfoliata*. Mor. Hiſt. Five-corner'd Bell-flower, with a perfoliated Leaf.

29. *CAMPANULA minor annua*, foliis inciſis. Mor. Hiſt. Small annual cut-leav'd Bell-flower, or Venus's Looking-glaſs.

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30. *CAMPANULA pentagonia, flore amplissimo, Thracica. Inst. R. H.* Five-corner'd Bell-flower, with a large Flower.

The first Sort is commonly cultivated to adorn Chimneys, Halls, &c. in the Summer-season; for which Purpose there is no Plant more proper, it producing sometimes eight, ten, or twelve Branches, which will grow four or five Feet high, and produce large Quantities of beautiful Flowers, almost the whole Length of the Stalks, which, if kept from Rain and Sun, will continue in Beauty for a long time; and if the Branches are regularly spread flat to Sticks, they make a very fine Appearance.

This Plant is propagated either by sowing the Seeds in *March*, in a Bed of light undung'd Soil, or by parting the Roots; the latter Method, being the most expeditious, is commonly practised; for every Dug taken from the Roots in *September* or *March*, will grow, if rightly managed: but the Roots which are raised from Seeds, will make the strongest Bloom; for which Reason, you should every Year sow of the Seeds, to have a Succession of these Roots, notwithstanding they are commonly three or four Years before they flower; we should therefore transplant the young Plants into Nursery-beds the *September* after sowing, which Beds should be made of a light Soil, rather dry than wet: the Distance they should be planted at, is six Inches square: and if in hard frosty Weather you cover the Bed with Mats, it will greatly strengthen the young Roots: in these Beds they may remain until the third Year after sowing; at which time, if you find the Roots are strong, and promise well for flowering, in *September* you should

take them up, and plant them into Pots of light Soil; and if you have the Conveniency of a Glass-frame to shelter them in Winter from great Rains, and severe Frosts, they will be vastly the stronger for it: for altho' they require frequent Waterings in Summer-time, yet too much Wet in Winter is apt to rot them; for their Roots are succulent and milky; therefore, if you have no such Conveniency, you must lay the Pots on one side in very wet Weather, and in a great Frost set them under a warm Wall, Pale, or Hedge, and cover them with Peas-haulm, &c. observing to lay a little old Dung round the Pots, to guard their Roots from the Frost. If this Care be taken, the Flowers will sufficiently recompense for the Trouble, in their Numbers and Largeness.

The Peach-leav'd Bell-flowers may be raised from Seeds, in the same manner; or be increased, by parting their Roots in Autumn, which is the most expeditious Method: these are very hardy, and may be planted in open Beds or Borders, where they will flower very strong especially if their Roots are taken up and parted every other Year; for otherwise the Number of Heads will render their Stems weak, and the Flowers small: the double-flowering Sorts are only propagated by parting of their Roots.

The *Canterbury Bells* are biennial, seldom lasting longer than the second Year; these therefore are only raised by sowing their Seeds, the best Season for which is in the Beginning of *April*, and in *June* the Plants will be fit to transplant; at which time you should prepare a Bed or two in a shady Situation, where you must plant them at about six Inches Distance every way; and in *September* following you may plant them

them out into the Borders of the Flower-garden, where they will flower the *May* following; and when they have ripened, their Seeds will die; therefore you must sow every Year, to have a Supply of fresh Roots.

The two Dwarf *American* Kinds are only propagated by Off-sets, their Seeds seldom ripening with us: they are hardy, and will endure in the open Air, provided they are planted in a dry Soil, and a warm Situation: the best Season for parting their Roots is in *April*; but they must not have too rich a Soil.

The *Canary* Campanula is one of the most beautiful Plants of the Green-house, it producing its Flowers in the Depth of Winter; and continues them thro' the Months of *December*, *January*, and *February*. This Plant is propagated by parting its Roots, the Season for which is in *June*, when the Stems are quite decayed; and in doing of it, great Care should be taken not to break or bruise their Roots, which would endanger their decaying. The Soil in which these Roots should be planted, must be one-third fresh Earth, a third-part Sand, and the rest Lime-rubbish; this should be well mixed and screened, and if laid together half a Year before it is used, that it may incorporate, it will be the better.

When you plant the Roots, give them a little Water to settle the Earth about them; but afterwards let your Waterings be very sparingly done, and but seldom repeated until their Stems begin to advance; after which, they must have a little more freely. The Stems of the Flower will begin to appear in *August*; and if the Roots are strong, will rise to eight or nine Feet in Height; and in *November*, or sooner, will begin to shew its beautiful flame-colour'd

Flowers. When these Stems begin to advance, you should remove the Plants into Shelter, to guard them from morning Frosts, or great Rains; and as the Weather grows colder, they must be removed into a good Green-house, where they should have as much free Air as possible in open mild Weather. This Plant will require the same Proportion of Heat as is allotted for the *Ficoides*, and will thrive in the same House better than among Orange-trees, &c.

The nettle-leav'd Bell-flowers are very hardy, and may be increased by parting their Roots either in Spring or Autumn, and are proper for large open Borders.

The Rampion is propagated in the Kitchen-garden, for its Root, which was formerly in greater Esteem in *England* than at present, altho' the *French* are still very fond of it: the Seeds of this Plant should be sown in *March*, in a Bed of light dry Earth, very thin; and in *May*, when the Plants are come up, hoe them out, leaving them about four Inches square; and during the Summer keep them clear from Weeds, and the Winter following they will be fit for Use.

The six Sorts of *Venus's* Looking-glass are annual Plants; the Seeds of these should be sown in the Borders of the Flower-garden, where they are to remain; for they do not love transplanting. If the Seeds are sown in *April*, the Plants will flower in *June* and *July*; but if they are sown in *May*, they will not flower till *August*; so that by sowing them at different times, there may be a Succession of them in Flower during all the Summer-months: and if the Seeds are sown toward the End of *August*, upon a light warm Soil, the Plants will abide the Winter, and
flower

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flower early the Spring following. The Seeds of the first Sort are very common in all the Seed shops in *London*: the fourth is a Variety of the first; but the second, third, fifth, and sixth Sorts are less common in *England*.

The two Dwarf *American* Sorts will endure our common Winters in the open Air; but in severe Frosts they are often destroyed: therefore it will be proper to preserve some Plants of each Sort in Pots, which may be placed under a common Hot-bed-frame in Winter; observing to take off the Glasses every Day in mild Weather, that they may enjoy as much free Air as possible; and in hard Frosts the Glasses may be covered with Mats, Straw, or Peas-haulm, to prevent the Earth in the Pots from being frozen, which will preserve the Plants in Vigour.

CAMPHORA. *Vide* Laurus.

CAMPHORATA, Stinking Ground-pine.

The Species are;

1. CAMPHORATA *hirsuta*. C. B. Hairy stinking Ground-pine.

2 CAMPHORATA *glabra*. C. B. Smooth stinking Ground-pine.

These Plants grow plentifully on sandy and rocky Soils near *Montpelier*, as also in *Italy* and *Spain*; but are seldom cultivated in Gardens.

The first Sort is reckoned amongst the officinal Plants in the College-Dispensatory; but at present is seldom used in Medicine.

They may be propagated by Slips, which should be planted in a shady Border in *April*, just as the Plants begin to shoot, observing to water them frequently; and when the Slips have taken good Root, they may be transplanted, with a Ball of Earth to their Roots, into a warm dry Border, or else into Pots, that they

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may be sheltered in severe Frosts, otherwise they will be destroyed.

They may also be propagated by Seed; but as they seldom perfect their Seeds in this Country, the other Method is always used to propagate them here.

CAMPION. *Vide* Lychnis.

CANDLE-BERRY-TREE. *Vide* Myrica.

CANDY-TUFT. *Vide* Thlaspi.

CANNA INDICA. *Vide* Cannacorus.

CANNABINA, Bastard-hemp.

The Characters are;

It is a Genus, whose Flowers have no Petals; but consist of a Number of Threads, and are barren; for the Seed is produced on Female Plants, which have no visible Flower; but have membranaceous Seed-vessels, which inclose triangular Seeds, which are, for the most part, oblong.

The Species are;

1. CANNABINA *Cretica fructifera*. Tourn. Cor. Fruitful Bastard-hemp of Candy.

2. CANNABINA *Cretica florifera*. Tourn. Cor. Male Bastard-hemp of Candy.

These two Plants both arise from the same Seeds, as is the Case with the Male and Female Plants of the common Hemp. They are Natives of the *Archipelago*, from whence Dr. *Tournefort* sent the Seeds to the Royal Garden at *Paris*. They are hardy Plants, which may be propagated by sowing their Seeds on a Bed of fresh light Earth in the Spring; and when the Plants are come up two Inches high, they should be carefully transplanted into a Bed of fresh Earth, observing to shade and water them until they have taken new Root; after which time they will require no farther Culture, but to keep them clear from Weeds. At *Michaelmas* the Plants will die down

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to their Roots ; so they should remain in these Beds until the Beginning of *March*, at which time they should be transplanted out where they are to remain ; where they should be placed at a good Distance from each other, or any other Plants ; for they grow pretty large, and will form large Heads, if they are suffered to remain many Years ; so that they should be placed at least three Feet asunder.

In the native Places of their Growth they often rise to the Height of ten or twelve Feet ; but in *England* they seldom grow to more than half that Size : but when their Roots are very strong, they will send forth six or eight Stems from each Root, so that they will occupy a large Space of Ground ; but as there is no great Beauty in these Plants, there should be but few of them admitted for Variety.

CANNABIS, Hemp.

The Characters are ;

It hath digitated or fingered Leaves, which grow opposite to one another : the Flowers have no visible Petals ; it is Male and Female, in different Plants.

CANNABIS *sativa*. C. B. The manured Hemp.

This Plant is propagated in the rich fenny Parts of *Lincolnshire*, in great Quantities, for its Bark, which is useful for Cordage, Cloth, &c. and the Seeds afford an Oil, which is used in Medicine.

Hemp is always sown on a deep moist rich Soil, such as is found in *Holland* in *Lincolnshire*, and the Fens in the Isle of *Ely*, where it is cultivated to great Advantage, as it might in many other Parts of *England*, where there is the like Soil ; but it will not thrive on Clay, or stiff cold Land : it is esteemed very good to destroy Weeds, but it will

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greatly impoverish the Land ; so that this Crop must not be repeated on the same Ground.

The Land on which Hemp is designed to be sown, should be well plowed, and made very fine by Harrowing ; about the Middle of *April* is a good Season for sowing the Seed : three Bushels will sow an Acre : in the Choice of the Seed, the heaviest and brightest-colour'd should be preferred, and particular Care should be had to the Kernel of the Seed, so that some of them should be crack'd, to see if they have the Germ or future Plant perfect ; for in some Places the Male Plants are drawn out too soon from the Female ; *i. e.* before they have impregnated the Female Plants with the Farina ; in which Case, tho' the Seeds produced by these Female Plants may seem fair to the Eye, yet they will not grow, as is well known to the Inhabitants of *Bickar*, *Swinehead*, and *Dunnington*, three Parishes in the Fens of *Lincolnshire*, where Hemp is cultivated in great Abundance, who have dearly bought their Experience.

When the Plants are come up, they should be hoed out in the same manner as is practised for Turneps, leaving the Plants a Foot or sixteen Inches apart ; observe also to cut all the Weeds, which if well perform'd, and in dry Weather, will destroy them. This Crop will require a second Hoeing about a Month after the first, in order to destroy the Weeds : if this be well performed, it will require no farther Care ; for the Hemp will soon after cover the Ground, and prevent the Growth of Weeds.

The first Season for pulling the Hemp is usually about the Middle of *August*, when they begin to pull what they call the Fimble-hemp, which

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which is the Male Plants; but it would be much the better Method to defer this a Fortnight or three Weeks longer, until these Male Plants have fully shed their Dust; without which the Seeds will prove abortive, produce nothing if sown the next Year, nor will those concerned in the Oil-mills give anything for them, there being only empty Husks, without any Kernels to produce the Oil.

The second Pulling is a little after Michaelmas, when the Seeds are ripe: this is usually called Karle-hemp: they were the Female Plants, which were left at the time when the Male were pulled. This Karle-hemp is bound in Bundles of a Yard Compass, according to Statute-measure, which are laid in the Sun for a few Days to dry; and then it is stacked up, or housed, to keep it dry, till the Seed can be threshed out. An Acre of Hemp on a rich Soil will produce near three Quarters of Seed, which, together with the unwrought Hemp, is worth from six to eight Pounds.

Of late Years the Inhabitants of the British Colonies in North America have cultivated this useful Plant, and a Bounty was granted by Parliament for the Hemp which was imported from thence; but whether the Inhabitants of those Colonies grew tired of cultivating it, or the Bounty was not regularly paid, I cannot say; but whatever has been the Cause, the Quantity imported has by no means answered the Expectation of the Public, which is greatly to be lamented; because as this Commodity is so essential to the Marine, which should be the principal Object of this Kingdom, the being furnished with it from our own Plantations will not only save the ready Money paid for it, but secure

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to the Country an ample Supply at all times, without being obliged to our Neighbours for it.

CANNACORUS, The Indian flowering Reed.

The Characters are;

It hath a knobbed tuberose Root: the Leaves are long and nervous: the Flower consists of one Leaf, is tubulous, and cut into six Segments: these are succeeded by roundish membranaceous Vessels, which are divided into three Cells, each containing two or three round hard Seeds.

The Species are;

1. CANNACORUS *latifolius vulgaris*. Tourn. The common broad-leav'd Indian Reed, with pale Flowers.

2. CANNACORUS *latifolius vulgaris, foliis variegatis*. The common Indian Reed, with striped Leaves.

3. CANNACORUS *flore luteo punctato*. Tourn. The yellow spotted Indian Reed.

4. CANNACORUS *flore coccineo splendente*. Tourn. The fine scarlet-coloured Indian Reed.

5. CANNACORUS *amplissimo folio, flore rutilo*. Tourn. The largest-leav'd Indian Reed, with redish-coloured Flowers.

6. CANNACORUS *angustifolius, flore flavescente*. Tourn. Narrow-leav'd Indian Reed, with yellow Flowers.

These Sorts are all propagated by Seeds, which must be sown on an Hot-bed in March, and afterward should be transplanted into Pots filled with good rich Earth, and, during the Summer-season, must be plentifully watered. These Plants, thus managed, will many times produce Flowers the first Season; but it is not till the second Year that they blow strong: in order to which, you should house them before the Frost pinches their Leaves, observing

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to give them but little Water in the Winter, and keep them intirely from the Frost. In *May* following, prepare a good rich Bed of Earth, and turn your Plants out of the Pots into this Bed, being careful not to disturb the Earth about their Roots, and giving them plenty of Water in dry Weather. When your Roots have once fastened themselves into this Bed, they will grow vigorously, and produce many strong Stems; which will flower much stronger than those kept in Pots, and ripen their Seeds very well.

The scarlet Blossom is by far the most beautiful Kind; tho' a Mixture of the yellow-spotted Sort will look very agreeable; but the common pale-coloured Sort is hardly worth keeping, unless in Botanic Collections.

This Sort will live through the Winter, in the open Air, if it is planted in a warm Situation, and a dry Soil; and will send up Stems every Summer, four or five Feet high, and produce Flowers, and, in good Seasons, will perfect their Seeds very well; but in Autumn the Shoots and Leaves will decay to the Root, and will not shoot again till the Middle or End of *May* following: this has occasion'd their having been destroyed by unskilful Persons, who supposed they were dead.

These Sorts may be also increased by parting their Roots in the Spring; but these Plants seldom flower so well as Seedlings: and since the Seeds are so easy to be obtain'd, it is hardly worth practising, unless for the strip'd-leav'd Sort, which can be no other way increas'd. The Inhabitants of *America* call this Plant *Indian Shot*, and say, the *Indians* make use of this Seed instead of Shot, to shoot Wild-fowl, &c.

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The third, fourth, and fifth Sorts make a fine Appearance in the time of their Flowering, which (if they are kept in Pots, and placed in a moderate Stove) will be from *December* to the Middle of *April*, and these will ripen their Seeds in *June*, so that a Plant or two of each Kind are worthy of a Place in every Stove where Exotic Plants are preserved.

The sixth Sort produces Spikes of very large yellow Flowers, which make a fine Appearance: but this rarely flowers in *England*; for in several Gardens, where it has been long preserved, it has not flowered above once in four or five Years: this Sort is very apt to spread at the Root, where the Plants are not confined in Pots; so may be plentifully increased by the Side-shoots or Suckers.

CAPERS. *Vide* Capparis.

CAPNOIDES, Podded Fumitory.

The Characters are;

The Leaves and whole Face of this Plant is like Fumitory; but the Style of the Flower becomes a long taper Pod, which contains many round shining Seeds.

CAPNOIDES. *Tourn.* Podded Fumitory.

This is a pretty annual Plant, which may be sown in an open Border in the Spring of the Year, where the Plants are to remain, either in the Borders of the Flower-garden, where they will make a pretty Shew for two or three Months together; or in Beds, where they may be sown with other annual Plants, which are preserved for Variety. The Seeds of this Plant, if suffered to shed upon the Ground, will furnish you with Plants enough, without giving you the Trouble to sow it any more.

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CAPNORCHIS, *Indian bulbous-rooted Fumitory.*

The *Characters* are ;

This hath the whole Face of Fumitory: the Root is sometimes tuberosa, sometimes scaly, and at other times bulbous; the Flower consists of two Leaves, is of an anomalous Figure, and hangs downward: the Pods are like those of Shepherd's-pouch.

We have but one *Species* of this Plant ; *viz.*

CAPNORCHIS Americana. *Boerb. Ind. American bulbous-rooted Fumitory.*

This Plant is propagated by parting its Roots, or from Seeds : it is not hardy enough to endure our Winters in the open Ground ; so must be put into Pots filled with light Earth, and housed in Winter : the Flowers are somewhat like those of Fumitory ; and though none of the most beautiful Plants, yet it deserves a Place in a good Garden.

CAPPARIS, The Caper-bush.

The *Characters* are ;

Its Flowers consist of four Leaves, which are expanded in form of a Rose: the Fruit is fleshy, and, for the most part, shaped like a Pear, in which are contained many roundish Seeds.

The *Species* are ;

1. **CAPPARIS non spinosa**, *fructu majore.* C. B. The large-fruited Caper, without Thorns.

2. **CAPPARIS spinosa**, *fructu minore, folio rotundo.* C. B. P. Prickly round-leav'd Caper, with a small Fruit.

3. **CAPPARIS folio acuto.** C. B. P. Sharp-leav'd Caper.

4. **CAPPARIS Americana arborescens**, *lauri folio, fructu longissimo.* *Plum. Cat. American Tree-caper, with a Bay-leaf, and a long Fruit.*

5. **CAPPARIS alia arborescens**, *lauri foliis, fructu oblongo ovato.*

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Plum. Cat. American Tree-caper, with a Bay-leaf, and an oval Fruit.

6. **CAPPARIS Americana arborescens**, *lauro-cerasi foliis, fructu oblongo.* *American Tree-caper, with Laurel-leaves, and an oblong Fruit.*

The first, second, and third Sorts are common in the South of *France*, and in *Italy*, where they grow wild on the Walls, and old Ruins. At *Toulon* they cultivate these Plants upon the Walls, by sowing of their Seeds in the Holes of the Stone Walls, about three or four Feet from the Ground ; so that the Roots of the Plants penetrate into the Joints of the Walls, and from thence draw their Nourishment. In *England* it is very difficult to preserve these Plants, especially if they are planted in Earth ; for these Plants thrive much better in Rubbish : so that where any Person is desirous to cultivate them, they should be planted in Pots filled with Lime-rubbish and Sand, and placed into a moderate Hot-bed, to forward their making new Roots ; after which time they may be exposed in the open Air in Summer ; but in Winter they must be sheltered from severe Frost, which will destroy them. The Stumps of these Plants are generally brought over in Plenty from *Italy* every Year, by the Persons who bring over Orange-trees and Jasmynes ; so that they may be purchased from them at a moderate Price, which is far the easiest Method of being furnished with these Plants ; for the Seeds are not easily obtained from abroad, nor do they succeed very well with us. Although these Plants require Shelter, when planted in Pots ; yet they will endure the severest Cold of our Winter, if growing in a Wall.

There is a Bush of this Kind, now growing in an Hole of a decay'd Wall, in the Gardens of *Camden House*

House at *Kensington*, which hath endured several Winters without any Shelter or Covering, and annually produces many beautiful Flowers, and sometimes, in good Seasons, will produce Seeds; though I do not remember ever to have seen them perfectly ripe.

The fourth, fifth, and sixth Sorts are Natives of *America*: the fourth and fifth were discovered by Father *Plumier* in the *French Islands*; but the sixth was found by Mr. *Robert Millar* near *Carthagera*, in the *Spanish West-Indies*, from whence he also sent me the other two Kinds. These three Sorts may be propagated by Seeds, which should be sown in Pots filled with light sandy Earth, and plunged into an Hot-bed of Tanners Bark, observing to water the Earth frequently, to forward the Vegetation of the Seed. When the Plants are come up, they should be each transplanted into a small Pot filled with light sandy Earth, and plunged into the Hot-bed again, observing to screen them from the Sun, until they have taken Root; after which time they must have Air and Water, in proportion to the Warmth of the Season. When the Plants have filled these small Pots with their Roots, they should be carefully taken out, and their Roots trimmed, and put into larger Pots, and plunged into the Hot-bed again. In Winter these Plants must be removed into the Stove, and placed in the Bark-bed, where they should be treated after the manner directed for the *Guajava*; with which Management these Plants will succeed.

CAPER-BEAN. *Vide* Fabago.

CAPRARIA, Wild-liquorice, or Sweet-weed.

The Characters are;

The Empalement of the Flower is of one Leaf, divided into four Parts,

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each of which is hollow like a Spoon: the Flower is also of one Leaf, which is divided into four or five concave Segments, which are reflexed: in the Middle is situated the Ovary, attended by four Stamina, which are surrounded by a great Number of small hairy Threads: the Ovary becomes a Fruit with one Cell, inclosing many small Seeds.

The Species are;

1. CAPRARIA *foliis alternis, corollis quinquesfidis*. *Lin.* Wild-liquorice, or Sweet-weed, with Leaves placed alternately, and the Flower divided into five Parts.

2. CAPRARIA *foliis ternis, corollis quadripartitis*. *Lin.* Wild-liquorice, or Sweet-weed, with three Leaves at each Joint, and the Flower divided into four Segments.

These Plants are Natives of the Islands in *America*, where they are troublesome Weeds; for, as they produce great Quantities of Seed, when they have scattered their Seeds, the Plants will come up in great Plenty: the second Sort has a sweet Taste when chewed, somewhat like Liquorice, which occasioned the Name of Sweet-weed.

These Plants are preserved in Botanic Gardens, in divers Parts of *Europe*; but, as they have no great Beauty, they are seldom propagated in other Gardens.

They are propagated by Seeds, which must be sown upon an Hot-bed in the Spring of the Year, and the Plants must be brought forward by planting them upon a second Hot-bed; and about the Middle or Latter-end of *June* they may be transplanted either into Pots of rich Earth, or a warm Border, and may then be exposed to the open Air, where they will perfect their Seeds in *August*: the second Sort may be preserved through the Winter in a good Stove;

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but, as it ripens its Seeds the first Year, it is very seldom preserved longer.

CAPRIFOLIUM Honeyfuckle.

The Characters are;

It hath a climbing Stalk, which twists itself about whatever Tree stands near it: the Flowers are tubulous and oblong, consisting of one Leaf, which opens toward the Top, and is divided into two Lips; the uppermost of which is again divided into two, and the lowermost into many Segments: the Tube of the Flower is bent, somewhat resembling an Huntsman's Horn: they are produced in Clusters, and are very sweet.

The Species are;

1. CAPRIFOLIUM *non perfoliatum, floribus albis.* The wild or English white Honeyfuckle.
2. CAPRIFOLIUM *non perfoliatum, flore interius albo, rubro externe.* Boerb. Ind. The English red Honeyfuckle.
3. CAPRIFOLIUM *non perfoliatum, foliis sinuosis.* Tourn. Oak-leav'd wild Honeyfuckle.
4. CAPRIFOLIUM *non perfoliatum, foliis sinuosis & variegatis.* The strip'd Honeyfuckle, with cut Leaves.
5. CAPRIFOLIUM *non perfoliatum, foliis ex luteo variegatis.* The common Honeyfuckle, with yellow-strip'd Leaves.
6. CAPRIFOLIUM *Italicum perfoliatum præcox.* Bross. The French or early white Honeyfuckle.
7. CAPRIFOLIUM *Italicum.* Dod. The Italian Honeyfuckle.
8. CAPRIFOLIUM *Germanicum, flore rubello, serotinum.* Bross. Late red Honeyfuckle.
9. CAPRIFOLIUM *Germanicum, floribus speciosus.* Dutch Honeyfuckle.
10. CAPRIFOLIUM *perfoliatum semper-virens, floribus speciosus.* Ever-green Honeyfuckle.

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The first, second, and third Sorts of Honeyfuckles are found growing in the Hedges, in many Parts of England: indeed the third Sort is seldom found, and, I believe, is no more than an accidental Variety of the two former. I have found several times Plants of this Kind in the Woods, which I have planted in the Physic-garden, where they now grow, and still continue to produce indented Leaves: the Shoots of this Sort are much weaker than are those of the common Sort; but, in other respects, the Variation from the common Sort is but small. The two strip'd Sorts are also Varieties of the common; one having whole, the other indented Leaves. The early-white, Italian, late-red, and Dutch Sorts, are Foreigners; but have been more cultivated in the Nurseries about London, than those which are of our own Growth, and are much commoner in the Gardens than those. The early White is the first Sort that flowers, commonly beginning in April; this is succeeded by the Italian: then the Dutch and late red Sorts follow; the latter of which, during the time of flowering, is the most beautiful of all the Kinds; for its Flowers are produced in very close Clusters, and every Shoot of the Tree produces many Bunches; which flowering all together, renders it a very fine Shrub; but this seldom lasts more than a Fortnight in Beauty; whereas the Dutch Sort, which produces its Bunches but thinly (its Branches growing more diffused), continues flowering until prevented by frosty Weather. The ever-green Honeyfuckle begins to produce its Flowers at the Beginning of June, and often continues flowering till Michaelmas; which, together with its ever-green Leaves, renders it a very valuable Shrub.

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The early White and *Italian* Honeysuckles are not so valuable as any of the other Sorts, because they are soon past flowering; and when the hot Weather comes on, they are generally covered with black Lice, and their Leaves decay, so that they have a bad Appearance most Part of the Summer; therefore a few Plants only should be admitted, on account of their coming early to flower.

The *English* wild Kinds are only proper to plant for climbing against Trees, Walls, &c. for their Branches are too slender to support themselves; nor can they be trained with Stems, so as to form Heads, as most of the other Kinds will do; but rather incline, and trail upon the Ground; which has been the principal Cause of their not being more propagated.

The long-blowing Honeysuckle, as it is generally called, is a Variety of the *Dutch*; from which it differs in the Colour of its Flowers; which, in the *Dutch*, are of a deeper Red, especially toward the Decay. This long-blowing Kind is more generally propagated in the Nurseries near *London*, than any other Sort, for its long Continuance in Flower; the Plants being seldom destitute of Flowers from the Middle of *June* till the End of *September*; and these Plants are seldom infested with Vermin: but, in order to continue them in Flower so long, the Branches of these Plants must not be cut off, or shortened, until they are past flowering.

All these Sorts of Honeysuckles are propagated by laying down their Branches at *Michaelmas*, which will take Root by that time Twelve-months; when they may be taken off from the old Plants, and planted in a Nursery, at about three Feet Row from Row, and eighteen Inches

asunder in the Rows, the better to train them up, either for headed Plants, or for Creepers to plant against Trees, Walls, Pales, &c. which in two Years time, at most, will be fit for any of those Purposes; or they may be propagated by planting Cuttings of the young Shoots at *Michaelmas*, in a shady Border; where they may continue till the *Michaelmas* following; when they may be transplanted into Nursery-beds (as was before directed): but the evergreen Honeysuckle is difficult to increase this way: therefore it would be better to propagate it by Layers.

In taking Cuttings of any of these Sorts for planting, it will be the best way to cut one Joint of the old Wood to the Bottom of each Cutting; which is a sure Method to have them succeed, for scarce one of these will fail; whereas those which are taken from the Upper-part of the Shoots, will many of them miscarry.

These Shrubs are very great Ornaments to small Quarters of flowering Shrubs, when train'd up to regular Heads, and the different Varieties being intermix'd therewith. Their long Continuance in Flower, together with the Beauty and Sweetness of their Flowers, renders them as valuable Shrubs for such Purposes as any we have; and they are no less valuable for planting against the Stems of old Trees in Groves or Avenues; where, if they are not too much overshadowed by the Trees, they will thrive and flower exceedingly.

The best Season for cutting these Trees, to keep them in a regular Form, is about *Michaelmas*, soon after they have done flowering, that their Wounds may heal before Winter: and this Work is best performed with a Knife, observing to cut be-

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hind a Leaf-bud ; for how long soever the Shoot is left beyond, it decays down to the Bud, and thereby becomes unsightly. They are extreme hardy, except the Ever-green, which is suppos'd to be an *American Plant* ; and is sometimes, in very severe Winters, apt to suffer by the Frost, if planted in a Situation too much expos'd.

CAPSICUM, Guiney Pepper.

The Characters are ;

The Flowers consist of one Leaf, and are expanded like those of *Nightshade* : the Fruit is soft, fleshy, and membranous, and divided into two or more Cells ; in which are contained many flat kidney-shap'd Seeds.

The Species are ;

1. **CAPSICUM** *siliquis longis pro-pendentibus. Tourn.* Capsicum with long hanging Pods.

2. **CAPSICUM** *siliquis recurvis. Dod.* Capsicum with long Pods, which turn up at the End.

3. **CAPSICUM** *latifolium, mali Æthiopici fructu magno compresso striato, Americanum. Pluk.* Broad-leav'd Capsicum, with long compress'd striated Pods, commonly call'd, Bonnet Pepper.

4. **CAPSICUM** *Africanum, fructu pyramidalis pendulo rugosissimo. African* Capsicum, with pyramidal rough hanging Pods.

5. **CAPSICUM** *Africanum, fructu pyramidalis rugosissimo, plerumque erecto. African* Capsicum, with pyramidal rough Pods, for the most part growing erect.

6. **CAPSICUM** *fructu non acri, rugoso longo pendente rubro. Tesobilli Hern.* Capsicum with long hanging red Pods, which are not hot.

7. **CAPSICUM** *fructu cordiformi, plerumque nutante, rubro.* Capsicum with heart-shaped red Pods, for the most part hanging downwards.

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8. **CAPSICUM** *fructu pyramidalis crasso, plerumque erecto, rubro.* Capsicum with pyramidal thick red Pods, for the most part growing upright.

9. **CAPSICUM** *fructu oblongo nunc erecto, nunc nutante, rubro.* Capsicum with oblong red Pods, growing sometimes erect, and sometimes hanging.

10. **CAPSICUM** *fructu rotundo majore, nunc erecto, nunc nutante, rubro.* Capsicum with large round red Pods, growing sometimes erect, and sometimes hanging.

11. **CAPSICUM** *fructu flavo pyramidalis oblongo, nunc erecto, nunc nutante.* Capsicum with oblong pyramidal yellow Pods, growing sometimes erect, and sometimes hanging.

12. **CAPSICUM** *fructu cordiformi, nunc erecto, nunc nutante, flavo.* Capsicum with heart-shap'd yellow Fruit, growing sometimes erect, and sometimes hanging.

13. **CAPSICUM** *fructu olivario erecto.* Upright olive-shaped Capsicum.

14. **CAPSICUM** *fructu parvo pyramidalis erecto rubro. Sloan.* Capsicum with small red Pods growing erect, call'd by the Inhabitants of the *West-Indies*, *Barbary* Pepper.

15. **CAPSICUM** *fructu parvo rotundo acerrimo. Sloan.* Capsicum with small round Pods, which are very hot, call'd by the Inhabitants of the *West-Indies*, *Bird* pepper.

16. **CAPSICUM** *Americanum, fructu rotundo cerasorum forma. Pluk.* *American* Capsicum, with round cherry-shap'd Fruit.

17. **CAPSICUM** *Americanum latifolium, fructu oblongo erecto candido.* Broad-leav'd *American* Capsicum, with oblong white Pods growing erect.

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18. *CAPSICUM fructu maximo oblongo rugoso, plerumque nutante, rubro.* Capsicum with large oblong red rough Pods, for the most part hanging downwards.

These Sorts of Capsicums are sown in many curious Gardens with other annual Plants, in Hot-beds, and require to be treated after the same manner as was directed for the Amaranthus; and, in the Autumn-season, make a very pretty Diversity, being intermixed therewith. They are all tolerably hardy, and may be planted abroad toward the End of May, or the Beginning of June, either in Pots, or open Borders, where they will ripen their Fruits very well; except the third, thirteenth, fourteenth, fifteenth, sixteenth, and seventeenth Sorts, which are tenderer, and must be brought forward under Glasses, otherwise their Fruit will not come to good. The thirteenth, fourteenth, and fifteenth Sorts will remain for several Years, and form handsome Shrubs, if you take proper Care to preserve them in the Stove in the Winter; during which Season their Fruits will remain and ripen, and appear very beautiful. Indeed, I believe, all the Sorts may be preserved over the Winter, were we to take off a Part of their Fruits, before they are grown so big as to exhaust the Strength of the Plant; and observe to house them in time: but as they perfect their Fruit so easily in one Summer, it is seldom practis'd but with those Sorts that do not so readily ripen their Seeds.

The Fruit of these Plants, though at present of no great Use in England, yet the eighteenth Sort affords one of the wholesomest Pickles in the World, if they are gathered young, before their Skins grow tough. The Inhabitants of the *West-Indies* eat

great Quantities of this Fruit raw, not only while it is green, but also when it is fully ripe; at which time it is so very acrid, as to cause an extraordinary Pain in the Mouth and Throat of such Persons as are not accustomed to eat it.

The Inhabitants of the *West-Indies* make great Use of the Bird-pepper; which they dry, and beat to a Powder, and mix with other Ingredients, which they keep by them at all times for Sauce, and use it instead of Pepper; of which they send some of these Pepper-pots to England, by the Name of Cayan Butter or Pepper-pot; and are by some of the *English* People mightily esteem'd.

CARACALLA. *Vide Phaseolus.*

CARDAMINDUM. *Vide Acri-viola.*

CARDAMINE, Ladies-smock.

The Characters are;

The Flower consists of four Leaves, which are succeeded by narrow Pods, which, when ripe, roll up, and cast forth their Seeds: the Leaves are, for the most part, wing'd.

The Species are;

1. CARDAMINE *pratensis, magno flore purpurascens.* Tourn. Common Ladies-smock, with purplish Flowers.

2. CARDAMINE *pratensis, magno flore albo.* Tourn. Common Ladies-smock, with white Flowers.

3. CARDAMINE *pratensis, magno flore pleno.* Tourn. The double Ladies-smock.

4. CARDAMINE *impatiens, vulgo Sium minus.* Ger. Emac. Impatient Ladies-smock.

5. CARDAMINE *impatiens altera hirsutior.* Raii Syn. The other rough impatient Ladies-smock.

6. CARDAMINE *flore majore, elatior.* Tourn. Taller Ladies-smock, with a larger Flower

7. *CARDAMINE Sicula, foliis fumariæ. Tourn.* Sicilian Ladies-smock, with Fumitary-leaves.

8. *CARDAMINE montana, asari folio. Tourn.* Mountain Ladies-smock, with an Asarabacca-leaf.

9. *CARDAMINE Alpina minor, resedæ folio. Tourn.* Small Ladies-smock of the Alps, with a base wild Rocket-leaf.

10. *CARDAMINE hirsuta, chelidonii folio, flore purpurascens. Tourn.* Hairy Ladies-smock, with a Celandine leaf, and purplish Flower.

11. *CARDAMINE glabra, chelidonii folio. Tourn.* Smooth Ladies-smock, with a Celandine-leaf.

12. *CARDAMINE Alpina prima trifolia. Clus.* The first three-leav'd Ladies-smock of the Alps.

13. *CARDAMINE Græca, chelidonii folio rarius & profundius inciso, flore albo. Tourn. Cor.* Greek Ladies-smock, with a Celandine leaf, that has but few and deep Jags, and a white Flower.

The two first Sorts are common in most of the moist Meadows in *England*: they flower the Beginning of *May*; and although there is no great Beauty in these Flowers, yet I thought proper to mention them, in order to introduce the third Sort, which is a very beautiful Plant, continuing a long time in Flower; and is a very proper Plant for cold North Borders, or a wet Soil, where few others will grow; and hereby we may render the poorest and worst Soil productive of Beauties, did we but carefully attend to the adapting proper Plants for it, and not endeavour to force it to produce Things which require a quite contrary Soil. The first Sort is sometimes used in Medicine.

The fourth and fifth Sorts grow wild in *England*; but are sometimes allowed a Place in Gardens for Variety-sake. When the Seeds of these

Plants are ripe, the Pods burst on the first Touch, and scatter the Seeds all around. If these Plants are put in a shady Border, and permitted to shed their Seeds, they will maintain themselves without any Care.

The sixth Sort grows in marshy Places, and in standing Waters: therefore is rarely kept in Gardens.

The seventh Sort is not a Native of *England*; yet will endure the severest Cold of this Climate in a warm Border; where, if it be permitted to shed its Seeds, it will maintain its Place without any farther Care.

The other Sorts are Natives of the Alps and Pyrenean Mountains (except the last, which was discovered by Dr. *Tournefort* in *Greece*). They are all extremely hardy: their Seeds should be sown soon after they are ripe, in a moist shady Situation; where the Plants will soon appear, and will require no other Care, but to clear them from Weeds; and if their Seeds are permitted to scatter, the Plants will come up better, than if sown. These Varieties are preserved in Botanic Gardens; and some of them merit a Place in some shady Part of every curious Garden, for their odd manner of casting forth their Seeds on the slightest Touch, when the Pods are ripe; which often surprises Strangers, who attempt to gather the Seeds.

CARDIACA, Motherwort.

The Characters are;

It hath a labiated Flower consisting of one Leaf, whose Upper-lip is imbricated (with Pieces laid one over another in the manner of Tiles); and is much longer than the Under-lip, which is cut into three Parts: out of the Flower-cup arises the Pointal, attended with four Embryo's, which afterward become so many angular Seeds: to which may be added, The Flower-cup is beset with small Spines.

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The Species are ;

1. *CARDIACA*. *J. B.* 3. 320. Common Motherwort.
2. *CARDIACA flore albo*. *Tourn.* Motherwort with a white Flower.
3. *CARDIACA crispa*. *Raii Hist.* Curled Motherwort.
4. *CARDIACA maxima villosa*. *Amm.* Greatest hairy Motherwort.

Dr. *Linnaeus* has joined the common Sort to his Genus of *Leonurus*; but I think not very properly.

These Plants are preserved in Botanic Gardens for the sake of Variety. The first is often found wild in *England*; but it is only near Gardens from whence it was ejected. The second is a Variety of the first, from which it only differs in Colour of the Flower. The third Sort differs from the two former, in having fine curled Leaves.

All these are very hardy Plants, which will sow themselves wherever they are introduced, so as to become Weeds in the Place. The Seeds of these Plants may be sown the Beginning of *March*, on almost any Soil, or in any Situation; where the Plants will come up in *April*, and, if kept clear from Weeds, will thrive exceedingly. When they are large enough to transplant, they should be removed, and planted eighteen Inches or two Feet asunder, because they will grow pretty large. If the Weather should prove dry, when they are transplanted, they should be watered, until they have taken new Root; after which time they will require no farther Care, than to keep them clear from Weeds; and the second Year they will flower, and produce ripe Seeds. The first Sort, being a medicinal Plant, is pretty much cultivated in the Physic-gardens near *London*; from whence the Markets are supplied with the Herb. The other three Sorts are

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only preserved in Botanic Gardens for the sake of Variety.

CARDINALS FLOWER. *Vide* *Rapuntium*.

CARDUUS, The Thistle.

The Characters are;

The Leaves grow alternately on the Branches, and are prickly: and the Heads are, for the most part, squamose and prickly.

The Species are ;

1. *CARDUUS albis maculis natus, vulgaris*. *C. B.* The milky or holy Thistle.
2. *CARDUUS nutans*. *J. B.* The musk or nodding Thistle.
3. *CARDUUS eriocephalus*. *Dod.* The woolly-headed Thistle.
4. *CARDUUS galactites*. *J. B.* 3. 54. The milky Thistle.
5. *CARDUUS humilis alatus, five carduus Mariæ annuus, folio lituris obscuris notato*. *H. Cath.* Dwarf annual Ladies-thistle, with winged Stalks, and dark-spotted Leaves.
6. *CARDUUS tomentosus, acanthi folio, vulgaris*. *Tourn.* Common Cotton-thistle.
7. *CARDUUS stellatus, five calcitrapa*. *J. B.* Common Star-thistle.
8. *CARDUUS stellatus, five calcitrapa, flore albo*. *H. R. Par.* Star-thistle, with a white Flower.
9. *CARDUUS, seu polyacantha vulgaris*. *Tourn.* The supposed true Fish-thistle.
10. *CARDUUS Creticus tomentosus, acanthi folio, flore magno purpurascens*. *Tourn. Cor.* Woolly Thistle of Candy, with an Acanthus-leaf, and a large purplish Flower.

The three first Sorts of Thistles grow wild in many Parts of *England*; the first commonly upon the Sea-coasts, and on the Side of Roads; and is sometimes cultivated for the Table; and when the Plants are full grown, they blanch them by tying

up of their Leaves, and earthing them: these whitened Plants are boiled, and, by some Persons, are greatly esteemed. The second is to be met with upon arable Land in many Places; and the last is less common than either of the former, being found but in few Places in *England*. These, and all the other Sorts of Thistles, may be cultivated by sowing their Seeds in the Spring in almost any Soil; and will flower and seed the second Year, and soon after perish; most of them being biennial Plants. The first Sort is sometimes used in Medicine, and is called in the Dispensatory, *Carduus Mariæ*.

The fourth Sort grows in *Spain*, *Italy*, and the South of *France*; but will not endure the Cold of our Winters, unless in a dry Soil, and a warm Situation.

The fifth Sort is a Native of *Sicily*; but if once planted in a Garden, and suffered to shed its Seed, will maintain its Place.

The sixth Sort is very common upon the Sides of dry Banks, and other uncultivated Places, in divers Parts of *England*. Of this Kind there are a great Variety in *France*, *Spain*, *Italy*, and other warm Countries; many of which have been introduced into the Botanic Gardens for the sake of Variety; but are not allowed a Place in any other Gardens.

The seventh Sort is found on Dunghills, and the Sides of Banks, in several Parts of *England*. This Plant is greatly used in *France*, as a medicinal Herb; and is judged febrifugous, vulnerary, and aperitive: of late Years it has been introduced among the medicinal Plants in *England*; but the Virtues are not so generally known, as in *France*, where it has been long in Use.

All these Plants delight to grow

on barren uncultivated Places: so whoever hath a mind to cultivate any of the Species, should sow their Seeds on a Bed of light undunged Earth in the Spring of the Year, where they are designed to remain; for they do not thrive so well when they are transplanted. When the Plants are come up, they should be thinned, so as to leave them eighteen Inches or two Feet asunder; and if they are kept clear from Weeds, it is all the Culture which they will require. The second Year they will flower in *June* and *July*, and in *August* they will perfect their Seeds, and the Roots will soon after decay: so that to have a Succession of these Plants, their Seeds must be sown every Year.

The ninth Sort is somewhat tenderer than the others; so should have a warmer Situation; otherwise it will be destroyed, if the Winter should prove severe. This doth not spread so much as the other Kinds; but will grow upright to the Height of four or five Feet; and having Leaves regularly placed on the Stalks, from the Ground to their Heads, makes an agreeable Appearance, and merits a Place in a Garden for the sake of Variety.

CARDUUS BENEDICTUS.

Vide Cnicus.

CARDUUS FULLONUM.

Vide Dipfacus.

CARLINA, The Carline-thistle.

The Characters are;

It hath for the most part radiated Flowers, from whose Disk arise many Florets, which rest upon the Embryo's; but the plain Petals, which arise from the Crown, have no Embryo's fixed to them: the Flower-cup is large and prickly, inclosing the Embryo's: these Embryo's afterward become Seeds, which

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which have a Down adhering to them; and each is separated by an imbricated Leaf.

The Species are;

1. *CARLINA acaulos, magno flore albo.* C. B. Carline-thistle without Stalks, and a large white Flower.

2. *CARLINA acaulos, magno flore purpureo.* C. B. Carline-thistle without Stalks, and a large purple Flower.

3. *CARLINA sylvestris vulgaris.* Clus. Common wild Carline-thistle.

4. *CARLINA acaulos, flore magno, radice perenni, Montis Aurei.* H. R. Par. Perennial Carline-thistle, without Stalks, of Mount d'Or.

5. *CARLINA acaulos gummifera.* C. B. P. Gum-bearing Carline-thistle without Stalks, commonly called, The white Chameleon.

6. *CARLINA caulescens, magno flore albicante.* C. B. P. Stalky Carline-thistle, with a large whitish Flower.

7. *CARLINA caulescens, magno flore rubente.* C. B. P. Stalky Carline-thistle, with a large redish Flower.

8. *CARLINA polycephalus alba.* C. B. P. Many headed white Carline-thistle.

9. *CARLINA sylvestris, flore aureo, perennis.* H. L. Wild perennial Carline-thistle, with a golden Flower.

10. *CARLINA sylvestris minor Hispanica.* Clus. H. Lesser wild Spanish Carline-thistle.

11. *CARLINA patula, atrætylidis folio & facie.* Tourn. Low spreading Carline-thistle, with a Leaf, and the Face, of Distaff thistle.

12. *CARLINA umbellata Apula.* Tourn. Umbellated Carline-thistle of Apulia.

These Plants grow in the South of France, in Spain, and in Italy: the third Sort grows wild in England, upon chalky Hills, and uncultivated Places.

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All these Plants are preserved by the Curious in Botany, for the sake of Variety; but they are seldom introduced into other Gardens, as they have no great Beauty; nor are they of any Use (except the fifth Sort, which is placed in the Catalogue of Simples annexed to the College Dispensatory; but is rarely ordered in Medicine), so far as I could ever discover: yet, as they are sometimes cultivated by curious Persons, it was thought proper to enumerate their several Varieties.

They may all be propagated by sowing their Seeds in the Spring on a Bed of fresh undunged Earth, where they are designed to remain; for, as they send forth Tap-roots, they will not bear transplanting so well as most other Plants. When the Plants appear above-ground, they should be carefully weeded; and, as they grow in Size, they should be thinned, where they are too close, leaving them about ten Inches or a Foot asunder. The second Year most of these Plants will flower; but, unless the Summer proves dry, they rarely produce good Seeds in England; and most of them decay soon after they have flowered; therefore it is pretty difficult to maintain these Plants in this Country.

CARNATION. *Vide* Caryophyllus.

CARPINUS, The Hornbeam or Hardbeam-tree.

The Characters are;

It hath Leaves like the Elm or Beech-tree: the Katkins (or Male Flowers) are placed at remote Distances from the Fruit on the same Tree: and the outward Shell of the Fruit is winged.

The Species are;

1. *CARPINUS.* Dod. The common Hornbeam-tree.

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2. *CARPINUS foliis ex luteo variegatis*. The strip'd Hornbeam.

3. *CARPINUS seu ostrea, ulmo similis, fructu racemoso, lupulo similis*. C. B. The Hop Hornbeam.

4. *CARPINUS Virginiana florescens*. Pluk. The Virginian flowering Hornbeam.

5. *CARPINUS Orientalis, folio minori, fructu brevi*. Cor. Inst. Eastern Hornbeam, with a smaller Leaf, and a short Fruit.

The first of these Trees hath been often cultivated in the Nurseries, to make Hedges for Wildernesses and Orangeries; but of late it hath not been so much used for that Purpose, the decay'd Leaves of the Tree continuing on all the Winter, as do those of the Oak, rendering them very unsightly in a Pleasure-garden; which, together with the perpetual Litter their Leaves make, have almost brought them into Disuse for this Work, unless in large Wildernesses, where the Hedges are train'd up to a great Height; for which Purpose there is no Tree more useful, it being a very tensile Plant, and may be kept thick from the Bottom to the Height of eighteen or twenty Feet; and will resist the Violence of strong Winds the best of any of the deciduous Trees, and is of speedy Growth. The Timber of this Tree is very tough and flexible, and is of excellent Use to the Turners; as also for making Mill-cogs, Heads of Beetles, &c. and is very good Firewood.

These Trees may be rais'd from the Seeds, which should be sown early in the Autumn in a shady Situation; where they will remain in the Ground until Spring, and often till the second Year, before they appear; for which Reason it is generally propagated by Layers, which is the most expeditious Method: the

Layers should be laid in Autumn, and will have taken sufficient Root to be transplanted the Autumn following: at which time they should be transplanted into a Nursery for two or three Years; where, if they are design'd for Hedges, their Under-branches should not be taken off, but the Trees train'd flat for that Purpose. These Trees are very proper to make Hedges round the Quarters of Exotic Trees and Shrubs; their Leaves abiding till the Spring before they fall off, will greatly fence off the cold Winds from the Quarters; and what Leaves fall away in Autumn, should be suffer'd to remain upon the Surface of the Ground until Spring; which will keep the Frost from penetrating so deep into the Ground, as it would, were the Ground intirely bare.

This Tree will grow upon cold barren expos'd Hills, and in such Situations as few other Trees will; so that it may be cultivated to great Advantage in such Places.

The Hop Hornbeam sheds its Leaves in Winter, with the Elm, and other deciduous Trees. This Tree, though but lately much known in England, yet is very common in Germany, growing promiscuously with the common Sort. This is much preferable to the common Sort for Hedges in a Pleasure-garden, upon the account of its quitting its Leaves with other Trees; and thereby doth not make so much Litter in the Spring as the other, and will cut full as well.

The Virginian flowering Hornbeam is still less common than the last, and only to be seen in curious Gardens: it is equally as hardy as the other, and may be increas'd by Layers.

This Sort will grow to the Height of thirty Feet, or more; and is of quicker

quicker Growth than either of the former Sorts: this sheds its Leaves in Autumn, about the same time with the Elm; and, during the time of its Leaves continuing, this Tree makes a good Appearance, being well cloathed with Leaves; which are of a deep strong green Colour, resembling more the Elm than the Hornbeam.

The Eastern Hornbeam is a Tree of humble Growth, rarely rising above ten or twelve Feet high in this Country, shooting out many horizontal irregular Branches; so cannot easily be trained up to a Stem. The Leaves of this Sort are much smaller than those of the common Hornbeam, and the Branches grow closer together; therefore may be very proper for low Hedges, where they are wanted in Gardens; being a very tansile Plant, and may be kept in less Compass than almost any other deciduous Tree. It is as hardy as any of the Sorts, and may be propagated in the same manner; but at present it is rare in the *English* Nurseries.

CARROTS. *Vide* Daucus.

CARTHAMUS, Bastard - saffron.

The Characters are;

This Plant agrees with the Thistle, in most of its Characters: but the Seeds of this are always destitute of Down.

The Species are;

1. CARTHAMUS *officinarum*, flore croceo. Tourn. Bastard-saffron, or Saf-flower.

2. CARTHAMUS *Africanus frutescens, folio ilicis, flore aureo.* Boerb. Ind. Alt. Shrubby African Bastard-saffron, with an ever-green Oak-leaf, and a golden Flower.

The first Sort is very much cultivated in many Parts of Germany for the Dyers Use, and is brought into

England from thence: it is there sown in the open Fields in the Spring of the Year; and when come up, they hoe it out thin, as we do Turneps, leaving the Plants about eight or ten Inches distant every Way: these Plants, as they grow, divide into a great many Branches, each producing a Flower at the Top of the Shoot, which, when fully blown, they cut or pull off, and dry it, which is the Part the Dyers make use of: and this is sometimes mixed with Saffron; to which, if it be rightly dried, and artfully mixed, it is so alike, as not to be distinguished but by good Judges.

This Plant was formerly cultivated in England, particularly in Gloucestershire, where, they say, it did very well: tho', I am satisfied, it must be a very good Season, if it ripens Seeds well in England; for the Flower-heads are so close and compact, that if, in the Season of the Seeds Formation, there happen to be wet Weather, this enters the Blossoms of the Florets, and is seldom dried away before the tender Seeds are destroyed; and altho' the Seeds shall many times seem very fair and good to outward Appearance, yet, upon breaking them, they are hollow, and destitute of Kernels. This Seed is sometimes used in Medicine; therefore such People as purchase it for that Purpose, should be careful that they be sound. The Flowers of this Plant, which are the Part the Dyers use, have been sometimes put into Puddens, to colour them; and at the time when it was cultivated in England, the poorer Sort of People in the Country used to gather it for that Purpose, until they put in such Quantities into their Puddens, that it purged them, which occasioned their leaving it off.

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The second Sort is a Native of the Country about the *Cape of Good Hope*, from whence it was brought into the Gardens in *Holland*: this must be placed in a Green-house in Winter, being too tender to live in the open Air: it may be propagated by Cuttings taken off in *August*, when the Shoots are hardened, and become woody, for those which are tender seldom succeed well: these Cuttings should be placed in a shady Border, and frequently refreshed with Water, and in six Weeks they will have taken good Roots, when they must be planted in Pots to be sheltered in Winter: it may also be propagated by Seed.

This Sort will grow about four Feet high, and have woody Stems; but the Leaves are prickly like Thistles, and the Flowers are not much unlike those of the common Sort, but smaller.

CARUI, Caraway.

The Characters are;

It hath winged Leaves, which are cut into small Segments, and are placed opposite on the Stalks, having no Footstalk: the Petals of the Flower are bifid, and shaped like an Heart: the Seeds are long, slender, smooth, and furrow'd.

The Species are;

1. CARUI *Casalp.* The common Caraway.

2. CARUI *semine majore. Vaill.* The large-seeded Caraway.

3. CARUI *foliis tenuissimis, asphodeli radice. Tourn.* The narrowest-leav'd Caraway, with Asphodel-roots.

4. CARUI *Alpinum. C. B.* Alpine Caraway.

The first of these Sorts is sometimes found wild in *England*, in rich moist Pastures, especially in *Holland* in *Lincolnshire*. The other Sorts have been sent from Abroad,

and are only cultivated in curious Gardens of Plants.

These Sorts may be all cultivated by sowing their Seeds in the Spring of the Year in a moist rich Soil; and when the Plants are come up, they should be hoed out to about six Inches square, which will greatly strengthen them, and promote their Seeding plentifully: in Autumn their Seeds will ripen, at which time the Plant should be cut, and laid upon Mats to dry; and then it may be beaten out, and dried, when it may be put up for Use. These Seeds are used in Medicine, as also in the Confectionary, for making Seed-cakes, &c. The first Sort only is what is used; tho' the Seeds of the second seem to be full as good, and are much larger and fairer than the first. The other Sorts are only kept in Collections of Plants, to increase their Numbers.

CARYOPHYLLATA, Avens, or Herb-bennet.

The Characters are;

It hath pennated or winged Leaves, somewhat like those of Agrimony: the Cup of the Flower consists of one Leaf, which is cut into several Segments: the Flower consists of five Leaves, which spread open in form of a Rose: the Seeds are formed into a globular Figure, each of which hath a Tail to it: the Roots are perennial, and smell sweet.

The Species are;

1. CARYOPHYLLATA *vulgaris. C. B.* Common Avens.

2. CARYOPHYLLATA *montana, flore luteo magno. J. B.* Mountain Avens, with large yellow Flowers.

3. CARYOPHYLLATA *montana purpurea. Ger. Emac.* Mountain Avens, with purple Flowers.

4. CARYOPHYLLATA *montana, flore luteo nutante. C. B.* Mountain Avens, with yellow nodding Flowers.

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5. CARYOPHYLLATA *Alpina, chamaedryos folio. Hist. Oxon.* Mountain Avens, with Germander-leaves.

6. CARYOPHYLLATA *vulgaris, majore flore. C. B.* Avens with large Flowers.

7. CARYOPHYLLATA *pentaphyllaea. J. B.* Cinquefoil Avens.

8. CARYOPHYLLATA *Virginiana, albo flore minore, radice inodora. H. L.* Virginian Avens, with small white Flowers, whose Roots have no Scent.

The first, third, fourth, sixth, and seventh Sorts are found growing wild in *England, Scotland, and Ireland*; but the second Sort was brought from the *Alps*, and the eighth from *Virginia*: the fifth Sort has been found in *Scotland*; but is very rare: these Sorts may be all cultivated in a Garden, by transplanting their Roots from the Places of their Growth, into a moist shady Part of the Garden, where they will thrive exceedingly; which is the best Method to procure them; for their Seeds commonly remain one Year in the Ground before they appear. The first Sort, which is generally used in Medicine, is so common in *England*, that it hardly deserves a Place in a Garden, because, if the Seeds are permitted to scatter, it will become a troublesome Weed; but the second, third, fourth, and sixth Sorts are worthy a Place in some moist shady Border, where few other things will grow; and serve to add to the Variety, especially since they require no Care or Trouble in their Culture, but only every *Michaelmas* to divide and transplant their Roots.

CARYOPHYLLUS, Clove-gilliflowers or Carnations.

The Characters are;

It hath an intire oblong cylindrical smooth Cup, which is indented at the Top: the Petals of the Flower

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are narrow at Bottom, and broad at the Top, and are, for the most part, lacinated, or cut, about the Edges: the Seed-vessel is of a cylindrical Figure, containing many flat rough Seeds.

This Genus may be divided into three Classes, for the better explaining them to Persons unacquainted with Botany; which also will be as necessary for the right understanding their Culture.

1. CARYOPHYLLUS *hortensis.* The Clove-gilliflower, or Carnation.

2. CARYOPHYLLUS *tenuifolius plumarius,* or Pinks.

3. CARYOPHYLLUS *barbatus,* or Sweet-Williams.

I shall treat of these three Classes singly, that I may the better explain their several Methods of Culture: and first, I shall begin with the Carnation or Clove-gilliflower; these the Florists distinguish again into four Classes.

The first they call Flakes; these are of two Colours only, and their Stripes are large, going quite thro' the Leaves.

The second are called Bizarrs; these have Flowers striped or variegated with three or four different Colours, in irregular Spots and Stripes.

The third are called Piquettes; these Flowers have always a white Ground, and are spotted, or pounced, as they call it, with scarlet, red, purple, or other Colours.

The fourth are called Painted-Ladies; these have their Petals of a red or purple Colour on the Upper-side, and are white underneath.

Of each of these Classes there are numerous Varieties; but chiefly of the Piquetts, which some Years ago were chiefly in Esteem with the Florists; but of late Years the Flakes have been in greater Esteem than any

any of the other Kinds. To enumerate the Varieties of the chief Flowers in any one of these Classes, would be needless, since every County produces new Flowers almost every Year; so that those Flowers which at their first raising were greatly valued, are in two or three Years become so common, as to be of little Worth, especially if they are defective in any one Property: therefore, where Flowers are so liable to Mutability, either from the Fancy of the Owner, or that better Kinds are yearly produced from Seeds, which, with good Florists, always take place of older or worse Flowers, which are turned out of the Garden to make room for them, it would be but superfluous in this Place to give a List of their Names, which are generally borrowed either from the Names and Titles of Noblemen, or from the Person's Name, or Place of Abode, who rais'd it: I shall only beg Leave to mention two or three old-described Sorts, by way of Introduction, and shall then proceed.

1. CAROPHYLLUS *altalis major*.
C. B. The Clove-gilliflower.

2. CARYOPHYLLUS *maximus ruber*. C. B. The large bastard Clove-gilliflower.

3. CARYOPHYLLUS *maximus alter, lato porri folio*. H. R. Par. The broad-leav'd Carnation, or Gilliflower.

The first of these Sorts is the true Clove-gilliflower, which hath been for a long time so much in Use for making a cordial Syrup, &c. of which there are two or three Varieties commonly brought to the Markets, which differ greatly in their Goodness; some of them having very little Scent, when compared with the true Sort: the large Kind hath been much plentier some

Years since than at present: this used to burst the Pods, and their Petals hang loping about in such a manner, that the People did not care to buy them in the Market; which was the Reason it hath not been cultivated so much of late. The third Sort is only to be found in such small Gardens as raise great Quantities of these Flowers from Seed, to supply the Markets in the Spring of the Year: this being a very hardy Kind, and their Leaves being so broad, and the Plants so vigorous, that the People who are wholly unacquainted with these Flowers, make choice of these as the most promising Plants; whereas they seldom have more than four or five Leaves in a Flower, and those are very small, and ill-colour'd: the first of these, *viz.* the Clove-gilliflower, is worthy of a Place in every good Garden; but of late there have been so many new Kinds produced from Seeds which are very fine and large, that most of the old Sorts have been excluded the Gardens of the Florists.

These Flowers are propagated either from Seeds, by which new Flowers are obtained, or from Layers, for the Increase of those Sorts which are worthy maintaining: but I shall first lay down the Method of propagating them from Seed; which is thus:

Having obtained some good Seeds, either of your own saving, or from a Friend that you can confide in; in the Beginning of *April*, prepare some Pots or Boxes, according to the Quantity of Seed you have to sow: these should be filled with fresh light Earth mixed with rotten Neats-dung, which should be well incorporated together; then sow your Seeds thereon, but not too thick, covering it about a Quarter of

an Inch with the same light Earth, placing the Pots or Cafes so as to receive the morning Sun only, till Eleven o'Clock, observing also to refresh the Earth with Water as often as it may need it: in about a Month's time your Plants will come up, and if kept clear from Weeds, and duly watered, will be fit to transplant in the Beginning of *June*; at which time you should prepare some Beds, of the same Sort of Earth as was directed to sow them in, in an open airy Situation, in which you should plant them at about three Inches square, observing to water and shade them, as the Season may require, being careful also to keep them clear from Weeds: in these Beds they may remain until the Beginning of *August*, by which time they will have grown so large as almost to meet each other; then prepare some more Beds of the like good Earth, in Quantity proportionable to the Flowers you have raised, in which you should plant them at six Inches Distance each Way, and not above four Rows in each Bed, for the more conveniently laying such of them as may prove worthy preserving; for in these Beds they should remain to flower.

The Alleys between these Beds should be two Feet wide, that you may pass between the Beds to weed and clean them. When your Flowers begin to blow, you must look over them to see if any of them proffer to make good Flowers; which as soon as you discover, you should lay down all the Layers upon them: those which are well marked, and blow whole without breaking their Pods, should be reserved to plant in Borders to furnish you with Seed; and those which burst their Buds, and seem to have good Properties, should be planted in Pots, to try

what their Flowers will be, when managed according to Art: and it is not till the second Year that you can pronounce what the Value of a Flower will be, which is in proportion to the Goodness of its Properties: but, that you may be well acquainted with what the Florists call good Properties, I shall here set them down.

1. The Stem of the Flower should be strong, and able to support the Weight of the Flower without loping down.

2. The Petals, or Leaves of the Flower, should be long, broad, and stiff, and pretty easy to expand; or, as the Florists term them, should be free Flowers.

3. The middle Pod of the Flower should not advance too high above the other Part of the Flower.

4. The Colours should be bright, and equally marked all over the Flower.

5. The Flower should be very full of Leaves, so as to render it, when blown, very thick and high in the Middle, and the Outside perfectly round.

Having made choice of such of your Flowers as promise well for the large Sort, these you should mark separately for Pots, and the round whole-blowing Flowers for Borders: then pull up all single Flowers, or such as are ill-colour'd, and not worth preserving, that your good Flowers may have the more Air and Room to grow strong: these having been laid, as soon as they have taken Root, which will be some time in *August*, they should be taken off, and planted out, those that blow large, in Pots, and the other in Borders, as hath been already directed.

Of late Years the whole-blowing Flowers have been much more esteemed than those large Flowers
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which burst their Pods; but especially those round Flowers which have broad Stripes of beautiful Colours, and round Rose-leaves, of which Kinds there have been a great Variety introduced from *France*, within these few Years; but as these *French* Flowers are extremely apt to degenerate to plain Colours, and being much tenderer than those which are brought up in *England*, there are not such great Prices given for the Plants now, as have been a few Years past: from the present Taste for these whole-blowing Flake-flowers, many of the old Varieties, which had been turned out of the Gardens of the Florists, many Years ago, to make room for the large Flowers, which were then in Fashion, have been received again; and large Prices have been paid of late for such Flowers as some Years ago were sold for one Shilling a Dozen, or less; which is a strong Proof of the Variableness of the Fancies of the Florists.

But I shall now proceed to give some Directions for propagating these Flowers by Layers, and the necessary Care to be taken, in order to blow them fair and large.

The best Season for laying these Flowers is in *June*, as soon as the Shoots are strong enough for that Purpose, which is performed in the following manner: after having stript off the Leaves from the lower Part of the Shoot intended to be laid, make choice of a strong Joint about the middle Part of the Shoot, not too near the Heart of the Shoot, nor in the hard Part next the old Plant; then with your Penknife make a Slit in the Middle of the Shoot from the Joint upward half-way to the other Joint, or more, according to their Distance; then with your Knife cut the Tops of

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the Leaves, and also cut off the swelling Part of the Joint where the Slit is made, so that the Part slit may be shaped like a Tongue: that outward Skin being pared off, which, if left on, would prevent their pushing out of Roots; then, having loosened the Earth round the Plant, and, if need be, raised it with fresh Mould, that it may be level with the Shoot intended to be laid, left by forcing down the Shoot you split it off; with your Finger make an hollow Place in the Earth, just where the Shoot is to come, and with your Thumb and Finger bend the Shoot gently into the Earth, observing to keep the Top as upright as possible, that the Slit may be open; and being provided with forked Sticks for that Purpose, thrust it into the Ground, so that the forked Part may take hold of the Layer, in order to keep it down in its proper Place; then gently cover the Shank of the Layer with the same Sort of Earth, giving it a gentle Watering, to settle the Earth about it, observing to repeat the same as often as is necessary, in order to promote their rooting. In about five or six Weeks after this, the Layers will have taken Root sufficient to be transplanted; against which time you should be provided with proper Earth for them, which may be composed after the following manner:

Make choice of some good upland Pasture, or a Common that is of an hazel Earth, or light sandy Loam; dig from the Surface of this your Earth about eight Inches deep, taking all the Turf with it; let this be laid in an Heap to rot and mellow, turning it once a Month, that it may sweeten; then mix about a Third-part of rotten Neats-dung, or, for want of that, some rotten Dung from a Cucumber or Melon-bed;

bed; let this be well mixed together; and if you can get it time enough before-hand, let them lie mixed six or eight Months before it is used, turning it several times, the better to incorporate their Parts.

Observe, That altho' I have mentioned this Mixture as the best for these Flowers, yet you must not expect to blow your Flowers every Year equally large, in the same Composition: therefore some People, who are extremely fond of having their Flowers succeed well, alter their Compositions every Year, in this manner; *viz.* one Year they mix the fresh Earth with Neats-dung, which is cold; the next Year with rotten Horse-dung, which is of a warmer Nature, adding thereto some white Sea-sand, to make the Earth lighter.

But, for my part, I should rather advise the planting two or three Layers of each of your best Kinds in a Bed of fresh Earth not over-dunged; which Plants should only be suffered to shew their Flowers, to prove them right in their Kind; and when you are satisfied in that Particular, cut off the Flower-stems, and don't suffer them to spend the Roots in blowing; by which means you will greatly strengthen your Layers. And it is from these Beds I would make choice of some of the best Plants for the next Year's blowing, always observing to have a Succession of them yearly; by which means you may blow every Year fine, supposing the Season favourable: for it is not reasonable to suppose, that the Layers taken from such Roots as have been exhausted in producing large Flowers, and have been forc'd by Art beyond their natural Strength, should be able to produce Flowers equally as large as their Mother-root did the

Year before, or as such Layers as are fresh from a poorer Soil, and in greater Health, can do. But this being premised, let us proceed to the Potting of these Layers, which, as I said before, should be done in *August*, or the Beginning of *September*.

The common Method used by most Florists is, to plant their Layers, at this Season, two in each Pot, the Size of which Pots are about nine Inches over in the Clear at the Top; in these Pots they are to remain for Bloom; and therefore, in the Spring of the Year, they take off as much of the Earth from the Surface of the Pots as they can, without disturbing their Roots, filling the Pots up again with the same good fresh Earth as the Pots were before filled with. But there is some Difficulty in sheltering a great Quantity of these Flowers in Winter, when they are planted in such large Pots, which in most Winters they will require, more or less: my Method therefore is, to put them singly into Halfpeny Pots in Autumn, and in the Middle of *October* to set these Pots into a Bed of old Tanners Bark, which has lost its Heat, and cover them with a common Frame, such as is used for raising Cucumbers and Melons; and in one of these Frames, which contains six Lights, may be set an hundred and fifty of these Pots: in these Frames you may give them as much free Air as you please, by taking off the Lights every Day when the Weather is mild, and putting them on only in bad Weather, and great Rains: and if the Winter should prove severe, it is only the covering the Glasses with Mats, Straw, or Peas-haulm, so as to keep out the Frost, which will effectually preserve your Plants in the utmost Vigour.

In the Middle of *February*, if the Season is good, you must transplant these Layers into Pots for their Bloom, which should be about seven or eight Inches over at the Top in the Clear; in the doing of which, observe to put some Pot-sherds, or Oyster-shells, over the Holes in the Bottoms of the Pots, to keep the Earth from stopping them, which would detain the Water in the Pots, to the great Prejudice of the Flowers: then fill these Pots about half-way with the same good Compost as was before directed, and shake the Plant out of the small Pots with all the Earth about the Roots; then, with your Hands, take off some of the Earth round the Outside of the Ball, and from the Surface, placing one good Plant exactly in the Middle of each Pot, so that it may stand well as to the Height, *i. e.* not so low as to bury the Leaves of the Plant with Earth; nor so high, that the Shank may be above the Rim of the Pot; then fill the Pot up with the Earth before-mentioned, closing it gently to the Plant with your Hands, giving it a little Water, if the Weather is dry, to settle the Earth about it; then place these Pots in a Situation where they may be defended from the North Wind; observing to give them gentle Waterings, as the Season may require.

In this Place they may remain till the Middle or Latter-end of *April*, when you should prepare a Stage of Boards to set the Pots upon, which should be so ordered, as to have little Cisterns of Water round each Post, to prevent the Insects from getting to your Flowers in their Bloom; which if they are suffered to do, will mar all your Labour, by destroying all your Flowers in a short time: the chief and most mischievous Insect in this Case is,

the Earwig, which will gnaw off all the lower Parts of the Petals of the Flowers, which are very sweet, and thereby cause the whole Flower to fall to Pieces: but since the making one of these Stages is somewhat expensive, and not very easy to be understood by such as have never seen them, I shall describe a very simple one, which I have used for several Years, which answers the Purpose full as well as the best and most expensive one can do: First, prepare some common flat Pans, about a Foot or fourteen Inches over, and three Inches deep; place these two and two opposite to each other, at about two Feet Distance; and at every eight Feet in length-ways, two of these Pans: in each of these whelm a Flower-pot, which should be about six Inches over at the Top; upside down, and lay a flat Piece of Timber, about two Feet and an half long, and three Inches thick, cross from Pot to Pot, till you have finished the whole Length of your Stage; then lay your Planks length-ways upon these Timbers, which will hold two Rows of Planks for the Size-pots which were ordered for the Carnations: and when you have set your Pots upon the Stage, fill the flat Pans with Water, always observing, as it decreases in the Pans, to replenish it, which will effectually guard your Flowers against Insects; for they do not care to swim over Water; so that if by this, or any other Contrivance, the Passage from the Ground to the Stage, on which the Pots are placed, is defended by a Surface of Water three or four Inches broad, and as much in Depth, it will effectually prevent these Vermin from getting to the Flowers.

The Stage should be placed in a Situation open to the South-east, but defended

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defended from the West Winds, to which these Stages must not be exposed, lest the Pots should be blown down by the Violence of that Wind, which is often very troublesome, at the Season when these Flowers blow: indeed they should be defended by Trees at some Distance, from the Winds of every Point: but these Trees should not be too near the Stage, nor by any means place them near Walls, or tall Buildings; for in such Situations the Stems of the Flowers will draw up too weak. About this time, *viz.* the Middle of *April*, your Layers will begin to shoot up for Flower; you must therefore be provided with some square Deal-sticks, about four Feet and an half long, which should be thicker toward the Bottom, and planed off taper at the Top: these Sticks should be carefully stuck into the Pots as near as possible to the Plant without injuring it; then with a slender Piece of Bais-mat fasten the Spindle to the Stick, to prevent its being broken: this you must often repeat, as the Spindle advances in Height; and also observe to pull off all Side-spindles as they are produced, and never let more than two Spindles remain upon one Root, nor above one, if you intend to blow exceeding large. Toward the Beginning of *June* your Flowers will have attained their greatest Height, and their Pods will begin to swell, and some of the earliest begin to open on one Side; you must therefore observe to let it open in two other Places at equal Angles: this must be done so soon as you perceive the Pod break, otherwise your Flower will run out on one Side, and be in a short time past recovering, so as to make a complete Flower; and in a few Days after the Flowers begin to open, you must cover them with

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Glasses which are made for that Purpose, in the following manner:

Upon the Top of the Glass, exactly in the Centre, is a Tin Collar, or Socket, about Three-fourths of an Inch square, for the Flower-stick to come thro'; to this Socket are soldered eight Slips of Lead at equal Distances, which are about six Inches and an half long, and spread open at the Bottom about four Inches asunder; into these Slips of Lead are fastened Slips of Glass, cut according to the Distances of the Lead, which, when they are fixed in, are bordered at the Bottom with another Slip of Lead quite round; so that the Glass hath eight Angles, with the Socket in the Middle, and spread open at the Bottom about eleven Inches wide.

When your Flowers are open enough to cover with these Glasses, you must make an Hole thro' your Flower-stick, exactly to the Height of the under Part of the Pod, thro' which you should put a Piece of small Wire about six Inches long, making a Ring at one End of the Wire to contain the Pod, into which Ring you should fix the Stem of the Flower; then cut off all the Tyings of Bais, and thrust the Stem of the Flower so far from the Stick, as may give convenient room for the Flower to expand without pressing against the Stick; to which Distance you may fix it, by turning your Wire so as not to draw back thro' the Hole; then make another Hole thro' the Stick, at a convenient Distance above the Flower, thro' which you should put a Piece of Wire, an Inch and an half long, which is to support the Glasses from sliding down upon the Flowers; and be sure to observe, that the Glasses are not placed so high as to admit the Sun and Rain under them to the

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Flowers, nor so low as to scorch their Leaves with the Heat. At this time also, or a few Days after, as you shall judge necessary, you should cut some stiff Paper, Cards, or some such thing, into Collars about four Inches over, and exactly round, cutting an Hole in the Middle of it about three-fourths of an Inch Diameter, for the Bottom of the Flower to be let thro'; then place these Collars about them to support the Petals of the Flower from hanging down: this Collar should be placed withinside the Calyx of the Flower, and should be supported thereby: then observe from Day to Day what Progress your Flowers make; and if one Side comes out faster than the other, you should turn the Pot about, and shift the other Side towards the Sun; and also, if the Weather proves very hot, you should shade the Glasses in the Heat of the Day with Cabbage-leaves, &c. to prevent their being scorched, or forced out too soon; and, when the middle Pod begins to rise, you should take out the Calyx thereof with a Pair of Nippers made for that Purpose; but this should not be done too soon, lest the middle Part of the Flower should advance too high above the Sides, which will greatly diminish the Beauty of it: and you should also observe whether there are more Leaves in the Flower than can properly be expanded for want of room; in which Case you should pull out some of the lowermost or most unlikely Leaves to spread, drawing out and expanding the others at the same time: and when your Flowers are fully blown, if you cut them off, you should put on a fresh Collar of stiff Paper, which should be cut exactly to the Size of the Flower, so that it may support the Petals to their full Width, but not to be seen

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wider than the Flower in any Part: when this is put on, you must draw out the widest Leaves to form the Outside of the Flower, which altho' they should be in the Middle, as it often happens, yet by removing the other Leaves they may be drawn down, and so the next longest Leaves upon them again, that the whole Flower may appear equally globular without any hollow Parts. In the doing of this, some Florists are so curious, as to render an indifferent Flower very handsome; and on this depends, in a great measure, the Skill of the Artist to produce large fine Flowers.

During the Flowering - season, particular Care should be taken not to let them suffer for want of Water, which should by no means be raw Spring-water; nor do I approve of Compound-waters, such as are enrich'd with various Sorts of Dung; but the best and most natural Water is that of a fine soft River; next to that is Pond-water or Standing-water; but if you have no other but Spring-water, it should be exposed to the Sun or Air two Days before it is used, otherwise it will give the Flowers the Canker, and spoil them. Thus having been full in the Culture of this noble Flower, I shall just mention that of the Pink, which differs not in the least from that of the Carnation in its manner of propagating, but only requires much less Care, and need not be potted, growing full as well in good Borders, where they make as elegant a Shew, during their Season of Flowering, as any Plant whatever, and afford as agreeable a Scent. The Varieties of these are,

The Damask Pink, White Shock, Scarlet, Pheasant's - ey'd Pink, of which there are great Varieties, both with single and double Flowers, the Old Man's Head, and the Painted-Lady

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Lady Pinks, with several others. These may be propagated by Layers, as the Carnations, and many of them by Cuttings planted in *July*, or from Seeds, by which Method new Varieties may be obtained. The manner of sowing these Seeds being the same with the Carnation, I shall refer back to that, to avoid Repetition; and shall proceed to the *China* Pink, which is a Flower of later Date amongst us than any of the former; which, altho' it hath no Scent, yet for the great Diversity of beautiful Colours which are in these Flowers, with their long Continuance in Flower, merits a Place in every good Garden.

1. *CARYOPHYLLUS Sinensis supinus, leucoii folio, flore vario. Tourn.* The variable *China* or *Indian* Pink.

2. *CARYOPHYLLUS Sinensis supinus, leucoii folio, flore pleno. Boerb. Ind.* The double *China* Pink.

There is a great Variety of different Colours in these Flowers, which vary annually as they are produced from Seeds; so that in a large Bed of these Flowers, scarcely two of them are exactly alike, and their Colours in some are exceeding rich and beautiful: we should therefore be careful to save the Seeds from such Flowers only as are beautiful; for they are very subject to degenerate from Seeds.

And the Seeds of the double Sort will produce many double Flowers again; but the Seeds of the single will scarcely ever produce a double Flower.

These Flowers are only propagated by Seeds, which should be sown toward the End of *March*, in a Pot or Box of good light Earth, and set under a Glass to forward its Vegetating; giving it Water as often as you shall see necessary, and in about a Month's time the Plants

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will come up, and be of some Bigness; you must therefore expose them to the open Air, and in a short time after prepare some Beds of good fresh Earth, not too stiff, in which you may prick out these Plants, about three Inches square, observing to water and shade them, as the Season may require.

In those Beds they may remain until the Middle of *June*, at which time you may remove and plant them in the Borders of the Pleasure-garden, being careful to preserve as much Earth to their Roots as possible; and in a Month's time after they will begin to flower, and continue until the Frost prevent them. About the Middle or Latter-end of *August* their Seeds will begin to ripen, at which time you should look over them once a Week, gathering off the Pods that are changed brown, and spread them on Papers to dry, when you may rub out the Seed, and put it up for Use. Tho' these Plants are usually term'd Annuals, and sown every Year, yet their Roots will abide two Years, if suffered to remain, and will endure the greatest Cold of our Winters, if planted in a dry Soil, and without any Shelter, as I experienced, *Anno* 1728. at which time I had a large Bed of these Flowers, which was raised a Foot above the Level of the Ground; and although its Situation was such, that the Sun never shone upon it from *October* to *March*, yet I had not one Root destroyed in the whole Bed, altho' it stood open, and without any Care taken of it.

I shall now come to the Sweet-Williams, where I shall first give the Names of a few of them, and proceed to their Culture.

1. *CARYOPHYLLUS barbatus hortensis latifolius. C. B.* The broad-leav'd

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leav'd Sweet - William, with red Flowers.

2. *CARYOPHYLLUS barbatus hortensis latifolius, flore variegato. Boerb. Ind.* The broad leav'd Sweet-William, with variegated Flowers.

3. *CARYOPHYLLUS barbatus, flore multiplici. C. B.* The double Sweet-William, with red Flowers, which burst their Pods.

4. *CARYOPHYLLUS barbatus, flore multiplici roseo. C. B.* The rose-colour'd double Sweet-William.

5. *CARYOPHYLLUS barbatus hortensis angustifolius. C. B.* The narrow-leav'd Garden Sweet-William, formerly called Sweet-Johns.

6. *CARYOPHYLLUS barbatus hortensis angustifolius, flore versicolore in eodem ramulo. C. B.* The Sweet-John, with various-colour'd Flowers on the same Branch.

7. *CARYOPHYLLUS barbatus hortensis angustifolius, flore pleno roseo.* The double rose-colour'd Sweet-John, or Fairchild's Mule.

The single Kinds of these Flowers are generally propagated by Seeds, which must be sown the Latter-end of *March*, or the Beginning of *April*, in a Bed of light Earth, and in *June* they will be fit to transplant out; at which time you must prepare some Beds ready for them, and set them at six Inches Distance every Way: in these Beds they may remain till *Michaelmas*, at which time they may be transplanted into the Borders of the Pleasure-garden or Wilderness: these will flower the next Year in *June*, and will perfect their Seeds in *August*, which you should save from the best-colour'd Flowers for a Supply.

They may be also propagated by slipping their Roots at *Michaelmas*: but this is seldom practised; since their Seedling Roots will always

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blow the strongest, and new Varieties are obtained yearly.

There is a Variety of this Flower, which is commonly known among the Gardeners, by the Name of Painted-Lady Sweet-William: this Sort seldom rises so high in their Stems as the common Sort; but the Flowers have a great Variety of bright Colours in them: and altho' they have no Scent, yet their Beauty renders them worthy of a Place in every good Garden: but, in order to preserve the fine Variety of Colours, the Seeds should be only saved from such Flowers as are the most beautiful; and, if the Seeds are frequently exchanged from one Place to the other, at a considerable Distance, and from Soils very different in their Nature, the Flowers will not so frequently degenerate as when the Seeds are saved in the same Garden several Years.

There are some of the common Sorts, with very deep-red and purple-colour'd Flowers, which deserve Admittance into the most curious Gardens, especially to plant in large rural Borders, or in Clumps of Shrubs scattered with other hardy Flowers, where they make a fine Appearance for a Month, or longer, if the Season proves moderately cool.

The double Kinds are propagated by Layers, as the Carnations; they love a middling Soil, not too light, nor too heavy or stiff, nor too much dung'd, which very often occasions their rotting: these continue flowering for a long time, and are extremely beautiful, especially the Mule, which produces two full Blooms of Flowers, one in *June*, and the other in *July*: this is very subject to canker, and rot away, especially if planted in a Soil over-

wet,

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wet, or too dry, or if watered with sharp Spring-water: these Flowers, being planted in Pots, are very proper to adorn Court-yards, at the time they are in Flower.

CASIA. *Vide* Osyris.

CASSIA.

The Characters are;

It hath a cylindrical long taper or flat Pod, which is divided into many Cells by transverse Diaphragms, in each of which is contained one hard Seed, which is, for the most part, lodg'd in a clammy black Substance, which is purgative: the Flowers consist of five Leaves, which are disposed in an orbicular Order.

The Species are;

1. CASSIA *Americana*, foliis subrotundis acuminatis. Tourn. The American Cassia, with roundish-pointed Leaves.

2. CASSIA *Americana fœtida*, foliis oblongis glabris. Tourn. The stinking American Cassia, with oblong smooth Leaves.

3. CASSIA *sylvestris fœtida*, foliis alatis. Plum. Nov. Gen. The wild stinking Cassia, with winged Pods, called in the West-Indies French Guava.

4. CASSIA *Marylandica*, pinnis foliorum obtusis, radice repente. Cassia from Maryland, with blunt Leaves, and a creeping Root.

5. CASSIA *Bahamensis*, pinnis foliorum mucronatis angustis, calyce floribus non reflexo. Mart. Hist. Pl. Dec. 2. Narrow-leav'd Cassia of the Bahama Islands, with a reflex'd Cup to the Flower.

6. CASSIA *Americana fœtida*, foliis obtusis. Tourn. Stinking American Cassia, with blunt Leaves.

7. CASSIA *Americana*, foliis planis. Plum. Nov. Gen. American Cassia, with smooth Pods.

8. CASSIA *fistula Alexandrina*.

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C. B. The purging Cassia, or Pudden-pipe-tree.

9. CASSIA *floribus pentandris, calycibus acutis*. Lin. Hort. Cliff. Cassia with a Leaf like the sensitive Plant.

10. CASSIA *foliolis sex parium ovatis acuminatis lanigeris*. Lin. Cassia with six Pair of oval-pointed woolly Leaves.

11. CASSIA *minor fruticosa hexaphylla, sennæ foliis*. Sloan. Hist. Shrubby six-leav'd Cassia, with Leaves like Senna.

12. CASSIA *foliolis trium quatuorve parium subovatis*. Lin. Hort. Cliff. Cassia with three or four Pair of oval Leaves.

13. CASSIA *hexaphylla, filiqua bicausulari*. Plum. Six-leav'd Cassia, with a Pod having two Cells.

14. CASSIA *humilis, filiquis fœnugræci*. Plum. Dwarf Cassia, with Pods like Fenugreek.

15. CASSIA *foliolis novem parium oblongis, glandula subulata inter infima*. Flor. Leyd. Shrubby Cassia, with nine Pair of oval Leaves.

16. CASSIA *arborea villosa, foliis latis mucronatis, filiquis articulatis*. Hoary Tree Cassia, with broad-pointed Leaves, and jointed Pods.

17. CASSIA *foliolis septem parium lanceolatis extimis fere minoribus, glandula supra basin petiolorum*. Lin. Hort. Cliff. Wild Senna, with seven Pair of Lobes to each Leaf.

18. CASSIA *plerumque hexaphylla, flore magno, filiqua pentagona alata*. Six-leav'd Cassia, with a large Flower, and a five-corner'd winged Pod.

These Plants are most of them Natives of the warmest Parts of America; so cannot be preserved in this Country, unless they are placed in a warm Stove in Winter: the eighth Sort, which produces the purging Cassia of the Shops, grows in Alex-

andria, and in several other warm Countries, where it becomes a very large Tree. The Pods of this are annually brought into *England*, for the Use of the Pulp which is lodged round the Seeds; so that whoever hath an Inclination to raise the Plants, may be easily supplied with the Seeds from the Druggists, who import the Pods, or the Apothecaries, when they take out the Pulp: these Seeds must be sown upon an Hot-bed in the Spring; and if, when the Plants are fit to remove, they are each planted into a small Pot, and plunged into an Hot-bed of Tan, the Plants may be raised two Feet high the first Summer: these Plants, as they get Strength, will become more hardy; so may be exposed in the open Air in a warm-sheltered Situation, for near three Months in the warmest Part of the Year; and the Plants so managed will be more healthy (though they do not make so great Progress) than those which are constantly kept in the Stove: but they must be removed into the Stove upon the first Approach of cold Weather in Autumn; and, if the Stove is kept to a moderate Temperature of Warmth, the Plants will do better than in a greater Heat.

The third Sort is much tenderer than this, and will not bear the open Air of this Country in Summer: the Seeds of this Sort are frequently brought from the *West-Indies*; and, when the Plants are raised upon an Hot-bed, and brought forward, they will make very great Progress the first Summer; but it is with great Difficulty the Plants are preserved through the Winter; their Stems, being soft and spongy, are very apt to grow mouldy, and then the whole Plant will rot away; so that they should be placed in the Tan-bed in the warmest Stove, otherwise they

cannot be preserved in this Country.

The fourth, ninth, tenth, and seventeenth Sorts are Natives of *Virginia* and *Carolina*; so are hardy enough to live in the open Air in *England*: these Sorts have annual Stalks, and perennial Roots: if these are planted in a warm Situation, their Roots will abide several Years, and produce their Flowers in Autumn; but they never produce Seeds here, unless they are placed in a Stove to forward their Flowering.

The eleventh, fifteenth, sixteenth, and eighteenth Sorts are shrubby Plants, which grow to the Height of eight or ten Feet: these will not live through the Winter in this Country, unless they are placed in a moderate Stove in Winter; so they should be treated in the same manner as hath been directed for the *Cassia Fistula*. These generally flower, but never produce Seeds in *England*.

The other Sorts are of humbler Growth, seldom rising above four or five Feet high, and have herbaceous Stalks: these must be raised upon an Hot-bed, and brought forward early in the Spring, otherwise they will not produce Flowers or Seeds: they may be kept through the Winter in a good Stove; but as they will perfect Seeds the first Year, when they are well managed, it is not worth while to continue the Plants longer.

CASSIDA, or SKULL-CAP.
Vide Scutellaria.

CASSINE, The Cassioberry-bush, and *South-Sea* Thea.

The Characters are;

The Empalement of the Flower is of one Leaf, divided into five concave Segments: the Flowers consist of five Petals; in the Centre of which arises the Pointal, attended by five Stamina;

na: the Pointal afterward changes to a Berry, having three Cells, in each of which is lodged a single Seed.

The Species are;

1. CASSINE *veræ perquam similis arbuscula, Phillyreæ foliis antagonisticis, ex provincia Caroliniensi. Pluk. Mant.* The Cassioberry-bush.

2. CASSINE *vera Floridanorum arbuscula, bacciferi alaterni ferme facie, foliis alternatim sitis, tetrapylene. Pluk. Mant.* The South-Sea Thea-tree, or Yapon, *vulgo*.

The first of these Trees is hardy, and will endure our severest Winters in the open Ground, after they are become woody; therefore it will be proper to shelter the young Plants two or three Winters while they are young; after which time they may be transplanted abroad in a sheltered Situation, upon a light Soil, where they will thrive exceedingly, and in a few Years produce Flowers. This Tree seldom grows to be very large, and therefore should be planted among Trees of a middling Growth. The largest of these Trees which I have as yet seen in England, is now growing in the Gardens of that curious and learned Botanist *Charles Dubois, Esq;* at Mitcham in Surry, which is about ten Feet high, and pretty thick in the Stem: this Tree hath stood abroad in an open Situation for several Years, resisting the severest Winters, and hath flower'd many Years; but I don't remember to have heard of its producing any Fruit.

This Sort is now become pretty common in the Nurseries near London, where it is propagated by laying down the Branches, which afford Shoots in Plenty for that Purpose from the Root, and Lower-part of the Stem, so as to become very bushy and thick, if they are not cut off: there are Numbers of these

Shrubs which produce Flowers in England every Year; but none of them ripen their Seeds. This Plant is by some late Authors supposed to be the same with the *Cape Phyllirea*, mentioned in the *Eltham Garden*; but it is very different, that being ever-green, and this sheds its Leaves.

The second Sort is somewhat tenderer than the former, and should not be planted in the full Ground, until the Plants have acquired a considerable Strength; nor should they be planted in a Situation too much expos'd to the cold Winds, and must have a sandy Soil. This Sort differs from the former, in the manner of producing its Leaves, which are placed alternately on the Branches, whereas the other produces its Leaves by Pairs opposite to each other. This is an Ever-green; but the Cassioberry-bush sheds its Leaves in Winter.

The Inhabitants of *North Carolina* and *Virginia*, where this Shrub grows in Plenty, give it the Title of Yapon, which I suppose to be the *Indian* Name: for, as it is a Plant much esteemed by the *Indians* for its medicinal Virtues, they certainly have a Name for it: this grows to the Height of ten or twelve Feet: the Leaves are about the Size and Shape of those of the small-leav'd *Alaternus*, but are somewhat shorter, and a little broader, at their Base: they are a little notched about their Edges, and are of a thick Substance, and deep-green Colour: the Flowers of this Sort are produc'd at the Joints near the Footstalk of the Leaves; but the Cassioberry-bush produces its Flowers in Umbels at the Extremity of the Shoots: the Berries of this Yapon continue upon the Plants most Part of the Winter, and, being of a bright-red Colour, intermixed with the green Leaves, make a fine

a fine Appearance at that Season. From these Berries continuing so long untouched by the Birds, we may reasonably conclude, that they have some venomous Quality; because few of the Fruits or Berries, which are wholesome, escape the Birds, in a Country where there are such Flocks of many Kinds of Birds.

This Shrub was much more common in the *English* Gardens some Years past, than at present; for as the Winters had been favourable for some Years, most People had planted these Plants in the open Air, where they succeeded pretty well until the severe Frost in the Year 1740. which destroyed all the Plants in the Gardens near *London*; and since that time there have been very few Plants raised from Seeds, tho' there have been considerable Quantities of the Seeds brought into *England*; but whether the Berries had remained long enough upon the Plants to be thoroughly ripe, or from what other Cause it has happened, I cannot say; but few of them have come up, tho' they were sown in various Places, and in different Methods: but could we get this Shrub in Plenty, it would be a good Acquisition to the ever-green Gardens.

These Trees are both of them propagated by sowing their Seeds (which are obtained from *Carolina*, where they grow in great Plenty near the Sea-coasts): they should be sown in Pots filled with light sandy Earth, and plunged into a gentle Hot bed, observing to water them frequently, until you see the Plants appear, which is sometimes in five or six Weeks time, and at other times they will remain in the Ground until the second Year: therefore, if the Plants should not come up in two Months time, you should remove the Pots into a shady Situation, where they

may remain till *October*; being careful to keep them clean from Weeds, and now-and-then in dry Weather giving them a little Water: then remove these Pots into Shelter during the Winter-season; and in the *March* following put them upon a fresh Hot-bed, which will forward the Seeds in their Vegetation.

When the Plants are come up, they should, by degrees, be expos'd to the open Air, in order to enure them to our Climate; yet don't expose them to the open Sun at first, but rather let them have the morning Sun only, placing them for some time where they may be sheltered from cold Winds: they should enjoy a Shelter during the two or three first Winters; after which the *Cassioberry*-bush may be planted abroad: but the *South-Sea* *Thea* should be kept in Pots a Year or two longer, being slower of Growth, and will therefore not have Strength enough to resist the Cold when young.

They may also be propagated by laying the younger Branches into the Ground in Autumn, which, if kept watered, will take Root by the Autumn following, fit for Transplantation; otherwise they'll be two Years before they take Root. The *Cassioberry*-bush is by much the easier Plant of the two to strike.

The *Paraguay* or *South-Sea* *Thea* is accounted by the *Indians* very wholesome, and (as I have been informed by several worthy Persons, who resided for several Years in *Carolina*) is the only Physic the *Indians* use, and for which, at certain times of the Year, they come in Drove, some hundred Miles distant, for the Leaves of this Tree (it not being known to grow at any considerable Distance from the Sea); where their usual Custom is, to make a Fire upon the Ground, and, putting

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ting a great Kettle of Water thereon, they throw into it a large Quantity of these Leaves, and immediately set themselves round the Fire, and, with a Bowl that holds about a Pint, they begin drinking large Draughts, which in a very short time vomits them severely; thus they continue drinking and vomiting, for the Space of two or three Days, until they have sufficiently cleans'd themselves; then they gather every one a Bundle of the Tree to carry away with them, and retire to their Habitations. But these Gentlemen observ'd something very extraordinary in the Operation of this Plant, which was, that in vomiting it gave them no Uneasiness or Pain, but came away in a full Stream from their Mouths, without so much as declining their Heads, or the least Reaching.

This Plant is generally supposed to be the same as that which grows in *Paraguay*, where the *Jesuits* of that Country make a great Revenue of the Leaves, which they export to several other Countries, where it is infused and drank like Tea: indeed, there are some Persons who doubt its being the same; which will be pretty difficult to determine, since there is so little Converse between the Inhabitants of *Paraguay* and those in *Europe*; and all the Leaves of that Tea, which have been brought to *Europe*, have been generally so broken and defaced, as to render it almost impossible to know their true Figure: however, from some of the fairest Leaves, which were picked out of the *Paraguay* Tea by a Person of Skill, who compared them with those of the *Yapon*, he had great Reason to believe they were the same: and as the Virtues attributed to the *Yapon* are nearly, if not absolutely, the same with those of the

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Paraguay, the *Indians* of these Northern Parts of *America* making the same Use of it as the Inhabitants of the South Parts of *America* do, viz. to restore lost Appetites; and they say it gives them Courage and Agility, for which Purposes it has been in Use time out of Mind: we may also observe, that the Place of its Growth in the North is the same Latitude as *Paraguay* is South; so I shall beg Leave to insert the Account given of the *Paraguay* Tea by Monsieur *Frezier*, who travelled through great Part of *New Spain*, by express Order of the King of *France*.

In *South Carolina* this Plant is called *Cassena* or *South-Sea Tea*: the Inhabitants of that Country do not make so great Use of this Tea, as those of *Virginia* and *North Carolina*; in the last of which the white People have it in as great Esteem as the *Indians*, and make as constant Use of it.

Monsieur *Frezier* also says, That the *Spaniards* who live near the Gold Mines in *Peru*, are obliged frequently to drink of the Herb *Paraguay* or *Mate*, to moisten their Breasts, without which they are liable to a sort of Suffocation, from the strong Exhalations which are continually coming from the Mines.

The same Author also adds, That the Inhabitants of *Lima*, during the Day-time, make much Use of the Herb *Paraguay*, which some call *St. Bartholame-w's Herb*, who, they pretend, came into those Provinces, where he made it wholesome and beneficial; whereas before it was venomous: this, he says, is brought to *Lima* dry, and almost in Powder.

Instead of drinking the Tincture or Infusion apart, as we drink Tea, they put the Herb into a Cup or Bowl made of a Calabash, tipp'd with

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with Silver, which they call *Mate*; they add Sugar, and pour the hot Water upon it, which they drink immediately, without giving it time to infuse, because it turns black as Ink. To avoid swallowing the Herb, which swims at the Top, they make use of a silver Pipe, at the End whereof is a Bowl full of little Holes; so that the Liquor suck'd in at the other End is clear from the Herb. They drink round with the same Pipe, pouring hot Water on the same Herb, as it is drunk off. Instead of a Pipe, which they call *Bombilla*, some part the Herb with a silver Separator, call'd *Apartador*, full of little Holes. The Reluctancy which the *French* have shewn to drink after all Sorts of People, in a Country where many are pox'd, has occasion'd the inventing the Use of little glass Pipes, which they begin to use at *Lima*. This Liquor, he says, in his Opinion, is better than Tea; it has a Flavour of the Herb, which is agreeable enough: the People of the Country are so used to it, that even the poorest drink it once a Day, when they rise in the Morning.

The Trade for this Herb (he says) is carried on at *Santa Fé*, whither it is brought up the River of *Plate*. There are two Sorts of it; the one called *Yerba de Palos*; and the other, which is finer, and of more Virtue, *Yerba de Camini*: the last is brought from the Lands belonging to the *Jesuits*: the great Consumption of it is between *La Paz* and *Cuzco*, where it is worth half as much more as the other, which is sent from *Potosí* to *La Paz*. There come yearly from *Paraguay* into *Peru* about fifty thousand Arrova's, twelve thousand Hundred-weight of both Sorts, whereof at least One-third is of the *Camini*, without reckoning twenty-five thou-

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sand Arrova's of that of *Palos* for *Chily*. They pay for each Parcel, containing six or seven Arrova's, four Royals for the Duty called *Alcavala* (being a Rate upon all Goods sold); which, with the Charge of Carriage, being above six hundred Leagues, doubles the first Price, which is about two Pieces of Eight; so that at *Potosí* it comes to about five Pieces of Eight the Arrova. The Carriage is commonly by Carts, which carry an hundred and fifty Arrova's from *Santa Fé* to *Jujuy*, the last Town of the Province of *Tucuman*; and from thence to *Potosí*, which is an hundred Leagues farther, it is carried on Mules.

What this curious Author has observed, on there being two Sorts of this Herb, may very well agree with those two Sorts here mention'd, since both of them are generally supposed to agree in their Qualities, though one is much preferable to the other; therefore I imagine the *Yerba de Camini* is what we call *Paraguay* or *South-Sea Thea*; and *Yerba de Palos* to be our *Cassioberry-bush*, the Leaves of which are extreme bitter, especially when taken green from the Tree, and the Taste is hardly to be gotten out of the Mouth for some Hours after chewing a Leaf thereof. But as our Author only saw the dried Herb, he could no more distinguish their Difference, than we can the *Thea* brought from *China*; I mean, as to the particular Trees which produce it.

CASTANEA, The Chestnut-tree.

The Characters are;

It hath Male Flowers, or *Katkins*, which are placed at remote Distances from the Fruit on the same Tree: the outer Coat of the Fruit is very rough, and has two or three Nuts included in each Husk or Covering.

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The Species are ;

1. *CASTANEA sativa*. C. B. The common or manured Chestnut.

2. *CASTANEA sativa, foliis elegantè variegatis*. The striped Chestnut.

3. *CASTANEA humilis racemosa*. C. B. P. Dwarf branching Chestnut.

4. *CASTANEA pumilis Virginiana, racemoso fructu parvo, in singulis capsulis echinato, unico*. Banist. Pluk. Alm. The Chiquapin, or Dwarf Virginian Chestnut.

5. *CASTANEA Americana, amplissimo folio, fructu maximo echinato*. American Chestnut, with an ample Leaf, and the largest prickly Fruit.

There are several Varieties of the common Chestnut, which differ in the Size of their Fruit : those with the very large Fruit the French call *Maronier*, and the small Fruit they call *Chateignier* ; and they bud the former upon the latter, to have better Fruit ; which is what should be always done, where they are planted for the sake of their Fruit.

The third Sort I believe to be only an accidental Variety, and not a distinct Species, so not worth the Trouble of cultivating.

The fifth Sort was found in some of the French Settlements in America by Father Plumier, who made a new Genus of it, giving it the Title of *Sloania*, in Honour to Sir Hans Sloane, Bart. Physician to his Majesty King George ; but it should not be separated from the Chestnut, as it only differs from that in having four Nuts inclosed in each Husk ; whereas the Chestnut has but three : the outward Cover to this Fruit is very large, and extremely armed with sharp Spines, which are as troublesome to handle as the Skin of an Hedgehog : these Nuts are very sweet and wholesome, but are not so large

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as those of the common Chestnut.

This Sort grows plentifully in South Carolina, from whence the Fruit has been sent to England : it may probably be the same Sort which grows in Virginia ; but as I have not seen the outer Cover of those Nuts, I cannot take upon me to affirm they are so.

The first of these Trees was formerly in greater Plenty amongst us than at present, as may be prov'd by the old Buildings in London, which were for the most part of this Timber ; and in a Description of London, written by Fitz-Stephens, in Henry the Second's time, he speaks of a very noble Forest, which grew on the North Part of it : *Proxime* (says he) *patet foresta ingens, saltus numerosi ferarum, latebræ cervorum, dammarum, aprorum, & taurorum sylvestrium*, &c. And there are some Remains of old decay'd Chestnuts in the old Woods and Chaces not far distant from London ; which plainly proves, that this Tree is not so great a Stranger to our Climate as many People believe, and may be cultivated in England, to afford an equal Profit with any of the larger Timber-trees, since the Wood of this Tree is equal in Value to the best Oak, and, for many Purposes, far exceeding it ; as particularly, for making Vessels for all Kinds of Liquor, it having a Property (when once thoroughly season'd) of maintaining its Bulk constantly, and is not subject to shrink or swell, as other Timber is too apt to do : and I am certainly informed, that all the large Casks, Tuns, &c. for their Wines in Italy, are made of this Timber ; and it is for that, and many more Purposes, in greater Esteem among the Italians than any other Timber whatever. It is also very valuable for

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for Pipes to convey Water underground, as enduring longer than the Elm, or any other Wood: in *Italy* it is planted for Coppice-wood, and is very much cultivated in Stools, to make Stakes for their Vines; which, being stuck into the Ground, will endure seven Years; which is longer than any other Stakes will do, by near half the time. The Usefulness of the Timber, together with the Beauty of the Tree, renders it as well worth propagating as any Tree whatever.

These Trees are propagated by planting the Nuts in *February*, in Beds of fresh undung'd Earth: the best Nuts for sowing are such as are brought from *Portugal* and *Spain*, and are commonly sold in Winter for Eating, provided they are not kiln-dried, which is generally the Case of those brought from Abroad, which is done to prevent their sprouting or rotting in their Passage; therefore, if they cannot be procured fresh from the Tree, it will be much better to use those of the Growth of *England*, which are full as good to sow for Timber or Beauty, as any of the foreign Nuts, tho' their Fruit are much smaller: these should be preserved, until the Season for sowing, in Sand, where Mice, or other Vermin, cannot come to them, otherwise they will destroy them: before you set them, it will be proper to put them into Water, to try their Goodness, which is known by their Ponderosity; those of them that swim upon the Surface of the Water should be rejected as good for nothing; but such as sink to the Bottom, you may be sure are good.

In setting these Seeds, or Nuts, the best way is, to make a Rill with an Hoe (as is commonly practised in setting Kidney-beans) about four Inches deep, in which you should

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place the Nuts, at about four Inches Distance, with their Eye uppermost; then draw the Earth over them with a Rake; and make a second Rill at about a Foot Distance from the former, proceeding as before, allowing three or four Rows in a Bed, with an Alley between, three Feet broad, for a Conveniency of clearing the Beds, &c. When you have finish'd your Plantation, you must be careful, that it is not destroyed by Mice, or other Vermin; which is very often the Case, if they are not prevented by Traps, or other Means.

In *April* these Nuts will appear above-ground; you must therefore observe to keep them clear from Weeds, especially while young: in these Beds they may remain for two Years, when you should remove them into a Nursery, at a wider Distance: the best Season for transplanting these Trees is either in *October*, or the Latter-end of *February*; but *October* is the best Season: the Distance these should have in the Nursery, is three Feet Row from Row, and one Foot in the Rows: you must be careful, in transplanting these Trees, to take them up without injuring their Roots, nor should they remain long out of the Ground; but if these Trees have a downright Tap-root, it should be cut off, especially if they are intended to be removed again: this will occasion their putting out lateral Roots, and render them less subject to miscarry when they are removed for good.

The Time generally allowed them in this Nursery is three or four Years, according to their Growth; but the younger they are transplanted, the better they will succeed; during which, you should be careful to keep them clear from Weeds, ob-
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serving also to prune off lateral Branches, which would retard their upright Growth; and where you find any that are disposed to grow crooked, either by their upper Bud being hurt, or from any other Accident, you may, the Year after planting, in *March*, cut them down to the lowermost Eye next the Surface of the Ground, which will cause them to make one strong upright Shoot, and may be afterwards trained into good strait Trees: but this should not be practised, unless the Plants have absolutely lost their leading Shoot; for although the Stems of the Trees should be very crooked (as is generally the Case with these Trees when young); yet when they are transplanted out, and have room to grow, as they increase in Bulk, they will grow more upright, and their Stems will become strait, as I have frequently observed, where there have been great Plantations.

But in doing of this, you must be careful not to disturb their Roots, which, perhaps, might destroy them. These Trees require no other Manner than their own Leaves, which should be suffered to rot upon the Ground; and in the Spring of the Year, the Ground should have a slight Digging, when these should be buried between their Roots; but not too close to the Trees, which might be injurious to their young Fibres.

After having remain'd three or four Years in the Nursery, they will be fit for transplanting, either in Rows for Avenues to an House, or in Quarters for Wilderness plantations; but if you intend them for Timber, it is by much the better Method to sow them in Furrows (as is practised for Oaks, &c.), and let them remain unremoved; for these Trees are apt to have a downright

Tap-root, which, being hurt by transplanting, is often a Check to their upright Growth, and causes them to shoot out into lateral Branches, as is the Case with the Oak, Walnut, &c.

Therefore, where-ever any of these Trees are planted for Timber, they should remain unremoved: but where the Fruit of them is more sought after, then it is certainly the better way to transplant them; for as transplanting is a Check to the luxuriant Growth of Trees, so it is a Promoter of their Fruetification, as may be evinced by observing low shrubby Oaks, Walnuts, &c. which generally have a greater Plenty of Fruit than any of the larger and more vigorous Trees; and the Fruit of such Trees is much superior in Taste, though the Seeds of vigorous Trees are vastly preferable for Plantations of Timber; for it is a constant Observation, that, by saving Seeds from Dwarf Trees or Plants, from time to time, they may be rendered much lower in their Growth than is their natural Size; but where the Fruit is most desired, then they should be taken from such Trees as produce the largest and sweetest Nuts; which are commonly found upon such Trees as spread the most, and have horizontal Roots; for the weaker Trees being less capable to furnish a Supply of Nourishment, and having a greater Quantity of Fruit upon them, to which this must be distributed, together with their Roots lying near the Surface of the Ground (by which means the Juices are better prepared by Sun, Air, &c. before it enters their Vessels), it is certain their Juices are better digested, and their Fruits better matured, than those can possibly be which grow upon strong vigorous Trees, which have long Tap-roots running several

several Feet deep into the Earth, and consequently take in vast Quantities of crude unprepared Juice, which is buoyed up to the extreme Parts of the Tree; and these seldom having many lateral Branches to digest and prepare their Juice, by perspiring or throwing off the crude Part, before it enters the Fruits.

And this, I dare say, universally holds good in all Sorts of Fruit-trees, and is often the Occasion of the good and bad Qualities of the same Sorts of Fruits growing on the same Soil.

What has been related about grafting this Tree into the Walnut, to promote their bearing, or render their Fruit fairer; or inoculating Cherries into the Chestnut, for later Fruit; is very whimsical and silly, since neither the Chestnut nor Walnut will receive its own Kind any other way than by inoculating, or inarching; and it is the latter only by which the Walnut can be propagated; nor was it ever known, that any two Trees of a different Genus would take upon each other, so as to produce a good Tree; therefore we may justly explode all those different Graftings of various Trees upon each other, so much talked of by the Antients; at least we may suppose those Trees are not known by the same Names now, that they are mentioned by in their Writings; for I have made many Trials upon them, which, although performed with great Care, and in different Seasons, yet scarcely one of them succeeded. But to return:

If you design a large Plantation of these Trees for Timber, after having two or three times plowed the Ground, the better to destroy the Roots of Weeds, you should make your Furrows about six Feet Distance from each other, in which

you should lay the Nuts about ten Inches apart, covering them with Earth about three Inches thick; and, when they come up, you must carefully clear them from Weeds: when these have remained three or four Years (if the Nuts succeeded well), you will have many of these Trees to remove; which should be done at the Seasons before directed, leaving the Trees about three Feet Distance in the Rows; at which Distance they may remain three or four Years more, when you should remove every other Tree, to make room for the remaining, which will reduce the whole Plantation to six Feet square; which will be Distance enough for them to remain until they are large enough for Poles; when you may cut down every other of these Trees (making choice of the least promising) within a Foot of the Ground, in order to make Stools for Poles, which, in eight or ten Years time, will be strong enough to lop for Hoops, Hop-poles, &c. for which Purposes they are preferable to most other Trees; so that every tenth Year, here will be a fresh Crop, which will pay the Rent of the Ground, and all other incumbent Charges, and, at the same time, a full Crop of growing Timber left upon the Ground: but as the large Trees increase in Bulk, their Distance of twelve Feet square will be too small: therefore, when they have grown to a Size for small Boards, you should fell every other Tree, which will reduce them to twenty-four Feet square, which is a proper Distance for them to remain for good: this will give Air to the Underwood (which by this time would be too much overhung by the Closeness of the large Trees); by which means that will be greatly encouraged, and the small Timber felled will pay sufficient

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ficient Interest for the Money at first laid out in planting, &c. with the Principal also; so that all the remaining Trees are clear Profit; for the Underwood, still continuing, will pay the Rent of the Ground, and all other Expences; and what a fine Estate here will be for a succeeding Generation, in about fourscore Years, I leave every one to judge.

The striped-leav'd Chestnut is a beautiful Tree in a Garden, to intermix with various Sorts of Trees, in Clumps, or in Wilderness-quarters; where, by the Variety these fine-striped Trees afford, they greatly add to the Diversity and Pleasure of such Plantations. This may be obtained by being budded upon the common Chestnut; but this striped Sort will never be a large Tree.

The Chinquapin, or dwarf *Virginian* Chestnut, is, at present, very rare in *England*; but is very common in the Woods of *America*, where it seldom grows above twelve or fourteen Feet high, and produces great Plenty of Nuts, which are, for the most part, single in each outer Coat. This Tree is very hardy, and will resist the severest of our Winters in the open Ground; but it is very apt to decay in Summer, especially if it is planted in very dry Ground: the Nuts of these Trees, if brought from *America*, should be put up in Sand as soon as they are ripe, and sent to *England* immediately; otherwise they lose their growing Quality, which is the Reason this Tree is at present so scarce with us; for not one Seed in five hundred sent over ever grew, which was owing to the Neglect of putting them up in this manner: indeed, most of the Nuts which have been brought over have been kiln-dried to preserve them from sprouting, which infallibly destroys the *Germen*: when the Nuts

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arrive, they should be put into the Ground as soon as possible; and, if the Winter should prove severe, it will be proper to cover the Ground with Leaves, Tan, or Peas-haulm, to prevent the Frost from penetrating the Ground, so as to destroy the Nuts: this Sort of Chestnut delights in a moist Soil; but, if the Wet continues long upon the Ground in Winter, it is apt to kill the Trees. This Tree will take by inarching upon the common Sort; but the Trees so propagated seldom succeed well.

The large *American* Chestnut is at present very rare in *England*: I do not remember to have seen more than three or four young Plants in any of the Gardens, and those had made but little Progress. This may be procured from *Carolina*, where they grow in Plenty: the Nuts should be sent over, as hath been directed for the Chinquapin, and managed in the same Way, which will be the surest Method to succeed: this Sort will bear the open Air in a shelter'd Situation.

CASTANEA EQUINA. Vide Hippocastanum.

CASTOREA.

This Plant was so named by Father *Plumier*, after a famous Physician and Botanist, whose Name was *Castor Durant*.

The Characters are;

It hath a personated Flower, consisting of one Leaf, whose Upper-lip, or Crest, is erect; but the Beard, or Under-lip, is divided into three Parts: the middle Part is bifid: the Flower-cup afterward becomes a round fleshy Fruit, inclosing a Shell, in which are contained four angular Seeds.

The Species are;

1. CASTOREA repens spinosa. Plum.
Prickly creeping Castorea.

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2. *CASTOREA racemosa, flore cæruleo, fructu croceo. Plum.* Branching Castorea, with a blue Flower, and a saffron colour'd Fruit.

The first Sort hath trailing Branches, which will creep on the Ground, if they are not supported; for in the Places where it grows wild, it rambles over whatever Plants grow near it. The Branches are closely beset with Spines, somewhat like the common Bramble; so that it renders the Place of its Growth very difficult to pass.

The second Sort grows to the Height of ten or twelve Feet, and becomes woody. This sends forth many Branches, at the Extremity of which there are Bunches of blue Flowers of an agreeable Scent; which are succeeded by saffron-coloured Berries, growing in Clusters like Bunches of Currans.

These Plants are Natives of the warmest Parts of *America*, and were first discovered by Father *Plumier*, in the *French Settlements*: but my late learned Friend, Dr. *William Houstoun*, found them in *Jamaica*; from whence he sent Samples of both Kinds, with their Seeds, into *England*, from which some of these Plants were raised.

They are both propagated by Seeds, which must be procured from the Places where they grow naturally; for they seldom perfect their Seeds in this Country. These must be sown in small Pots filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark, observing to water them as often as you find the Earth dry. In about six Weeks the Plants will begin to appear, when you should carefully clean them from Weeds, and frequently refresh them with Water; and in warm Weather they should

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have fresh Air admitted to them, that they may get Strength, and not draw up too weak. When the Plants are about two Inches high, they should be carefully taken up, and transplanted each into a separate small Pot filled with fresh light Earth, and plunged into the Hot-bed again; then water them, to settle the Earth to their Roots; and in the Day-time the Glasses should be shaded with Mats, until the Plants have taken Root; after which time they should be constantly watered three or four times a Week, or sometimes oftener in very hot Weather; and they must have Plenty of Air admitted to them in the Summer, otherwise they will draw up weak; but in Winter they must be placed in the Bark-stove, and treated as the Coffee-tree, and such other tender Exotic Plants. With this Management they will produce Flowers the second or third Year, and may be continued for several Years; and as they retain their Leaves through the Year, they will add to the Variety in the Stove.

CATANANCE, Candy Lions-foot.

The Characters are;

The Cup of the Flower is squamose: the Florets, which are round the Margin, are much longer than those in the Middle of the Flower: the Seeds are wrapt up in a leafy or downy Substance, within the Cup, or outer Covering.

The Species are;

1. CATANANCE *quorundam. Lugd.* True Lions-foot, with Buck-thorn-leaves.

2. CATANANCE *flore luteo, latiore folio. Tourn.* Broad-leav'd Candy Lions-foot, with a yellow Flower.

3. CATANANCE *flore luteo, angustiore folio. Tourn.* Narrow-leaved Candy

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Candy Lions-foot, with a yellow Flower.

The first of these Plants is a Perennial, and may be propagated by Heads taken off the Mother-plant, either in Spring or Autumn; but those Plants which are raised from Seeds, are much stronger than those from Slips. These Plants are commonly planted in Pots filled with light sandy Soil, in order to shelter them in the Winter from severe Frosts; but if they are planted in warm Borders, either under Walls, Pales, or Hedges, and in a moderately dry Soil, they will endure abroad very well. This Plant begins flowering in *May*, and continues till *August* or *September* (especially if the Summer is not too dry): it is a pretty Ornament to a Garden, and is easily kept within Bounds. It may also be propagated by Seeds, which should be sown on a Border of good light Earth in *March*: and in *May*, when the Plants are come up, they may be either transplanted into Pots or Borders, where they are to remain for flowering. These Plants should remain unremoved for three or four Years when they are planted in the full Ground, which will cause them to flower better, and they will produce more Seeds. The Seeds ripen in *August*.

The other two Sorts are Annuals, and therefore only propagated by Seeds, which ripen very well in this Country. The Time for sowing them is early in *March*, in Beds or Borders of light Earth, which will come up in a Month's time, and may then be transplanted into Borders to flower: these flower in *June*, and perfect their Seeds in *August* or *September*; but as they have little Beauty, they are not often kept in Gardens.

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CATAPUTIA MAJOR. Vide Ricinus.

CATAPUTIA MINOR. Vide Tithymalus.

CATARIA, Cat-mint, or Nepeta.

The Characters are;

The Leaves are like those of the Nettle, or Betony; are, for the most part, hoary, and of a strong Scent: the Flowers are collected into a thick Spike: the Crest of the Flower is broad and bifid: the Lip is divided into three Segments; the middle Segment is broad, and hollowed like a Spoon, and elegantly crenated on the Edges: each Flower is succeeded by four naked Seeds.

The Species are;

1. CATARIA *major vulgaris*. Tourn. Common large Cat-mint.

2. CATARIA, *quæ nepeta, minor, folio melissæ Turcicæ*. H. Cath. Lesser Cat-mint, with Leaves like Turkey Balm.

3. CATARIA *angustifolia major*. Tourn. Narrow-leaved large Cat-mint.

4. CATARIA *Hispanica, betonicæ folio angustiori, flore cæruleo*. Tourn. Narrow-leav'd Spanish Cat-mint, with blue Flowers.

5. CATARIA *Hispanica, betonicæ folio angustiori, flore albo*. Tourn. Narrow-leav'd Spanish Cat-mint, with white Flowers.

6. CATARIA *Lusitanica erecta, betonicæ folio, tuberosa radice*. Tourn. Upright Portugal Cat-mint, with a tuberosé Root.

7. CATARIA *Lusitanica erecta, betonicæ folio, fibrosa radice*. Tourn. Upright Portugal Cat-mint, with fibrose Roots.

8. CATARIA *minor vulgaris*. Tourn. Common small Cat-mint.

9. CATARIA *quæ Horminum spicatum, lavenderæ flore & odore*. Bocc.

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Cat-mint with a spiked Flower, having a Lavender-scent.

10. CATARIA *Cretica humilis scordioides*. Cor. Inst. Dwarf Cat-mint of Crete, resembling Scordium.

11. CATARIA *Cretica, melissæ folio, asphodeli radice*. Cor. Inst. Cat-mint of Crete, with a Balm-leaf, and an Asphodel-root.

12. CATARIA *Orientalis, teucrii folio, lavendulæ odore, verticillis florum crassissimis*. Cor. Inst. Eastern Cat-mint, with a Tree-germander-leaf smelling like Lavender, and very thick Spikes of Flowers.

All these Sorts of Cat-mint are propagated by sowing their Seeds in February or March, in Beds or Borders of common Earth, and may be transplanted into Beds at about two Feet square from each other, leaving a Path between every Bed, and an Alley of three Feet to go between, to clear them from Weeds, &c.

The first Sort mentioned is used in Medicine: this may also be propagated by parting the Roots, either in Spring or Autumn, and will grow in almost any Soil or Situation: it flowers in June, and the Seeds are ripe in August. This Plant grows wild upon dry Banks in many Parts of England: but if this is transplanted into a Garden, the Cats will surely destroy it, unless it is fenced round with Thorns to prevent their coming to it. The same will happen to those Plants which are transplanted from one Part of the Garden to the other; and at the same time, those Plants which have come up from Seeds, which either dropp'd of themselves, or were sown, will remain untouch'd by the Cats, as I have frequently observed; and many times the Seedling-plants have grown within two Feet of those which

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were transplanted, and the latter have been quite destroyed, when the former has been untouch'd: which verifies the old Proverb; viz. *If you set it, the Cats will eat it; if you sow it, the Cats won't know it.* The Cats usually roll themselves upon the Plant, till they have broken it down; then they gnaw it, and eat the Tops; which occasions a Sort of Drunkenness: afterward they tear it to Pieces with their Claws; and when the whole Plant is destroyed, they will roll upon the Ground till they have smoothed and pressed the Surface, as if a Roller had passed over it.

The other Sorts are also very hardy, and may be propagated in the same manner; but require a dry Soil in Winter, otherwise they are subject to rot. These all ripen their Seeds in England very well; and altho' there is no great Beauty in them, yet, for Variety, the two Portugal Sorts may have a Place amongst Plants of the lower Class; where, if they are kept in Compass, and tied up to Sticks, they will make a tolerable Appearance for a long time. All the other Sorts are proper Furniture for Botanic Gardens; but they are seldom admitted into other Gardens.

CATCH-FLY. *Vide* Lychnis.

CATESBÆA, The Lily-thorn.

The Characters are;

The Empalement is divided into four small Segments: the Flower consists of one Leaf, is funnel shaped, having a very long Tube, which is narrow and thin at Bottom, but larger and thicker upward: the Top is divided into four Segments, and spread open: the Pointal is fixed in the Centre of the Flower, surrounded by four Stamina: the Pointal afterward becomes an oval Berry, opening in one Cell, inclosing many angular Seeds.

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We know but one *Species* of this Genus; *viz.*

CATESBÆA. *Lin. Gen.* Commonly called the Lily-thorn.

The Name of this Plant was given in Honour to Mr. *Mark Catesby*, F.R.S. who brought the Seeds of this Plant, with many other curious Sorts, into *England*, from the *Bahama Islands*, in the Year 1726. from which Seeds there were many Plants raised in the *English* Gardens, some of which have produced their beautiful Flowers. Mr. *Catesby* met with this fine Shrub growing near *Nassau-Town*, in the Island of *Providence*, where it grew about fourteen Feet high, having many long Thorns upon the Branches, which come out by Pairs, at the Wings of the Leaves. The Leaves are produced irregularly, in Clusters; and are like those of the Box-tree, but smaller. The Flowers are tubulous, of a yellow Colour, about six Inches in Length, and hang downward, and are produced singly: these are shaped like a Trumpet. The Fruit is of an oval Figure, and the Size of a Pullet's Egg; having a Pulp like that of a ripe Apple, of an agreeable tart Flavour: the Middle of the Fruit is hollow, containing many small triangular Seeds.

This Plant is very rare in *England* at present; most of the Plants which were raised from the Seeds which Mr. *Catesby* brought over, having been lost; and there has been no Supply of Seeds since that Time. It is a tender Plant, and requires a good Stove to keep it through the Winter in this Country. In the Summer-season the Plants should have a large Share of free Air; but they will not bear to be wholly exposed even at that Season. This Plant is propagated by Seeds, which must be procured from the *Bahama*

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Islands, and should be sown in the Spring of the Year, upon a good Hot-bed; and the Plants, when they are come up, must be treated in the same manner as is directed for other tender Exotic Plants.

CAUCALIS, Bastard-parisley.

This is one of the umbelliferous Plants, with oblong Seeds, which are a little furrow'd and prickly: the Petals of the Flower are unequal, and heart-shaped.

There are several Species of this Plant preserved in the Botanic Gardens; but as there is no great Beauty or Use in any of them, I shall pass them over with only observing, that if any Person hath a mind to cultivate them, the best Season to sow their Seeds is in Autumn, soon after they are ripe: for if their Seeds are kept till Spring, they seldom produce ripe Seeds again: they are most of them biennial, and require to be sown every other Year. We have five or six Species of them, which grow wild in *England*.

CEDAR of BERMUDAS. *Vide* Juniperus.

CEDAR of CAROLINA. *Vide* Juniperus.

CEDAR of Jamaica. *Vide* Guazuma.

CEDAR of LIBANUS. *Vide* Larix.

CEDAR of LYCIA. *Vide* Juniperus.

CEDAR of PHOENICIA. *Vide* Juniperus.

CEDAR of VIRGINIA. *Vide* Juniperus.

CEIBA, Silk Cotton-tree, *vulgo*.

The Characters are;

It hath a rosaceous Flower, consisting of several Leaves placed in a circular Order; from whose Calyx arises the Pointal, which afterward becomes a Fruit shaped like a Bottle, divided into five Parts from the Top

to the Bottom; in which are contained several round Seeds, wrapped up in a soft Down, and fasten'd to the five-corner'd pyramidal Placenta.

The Species are;

1. *CEIBA viticis foliis, caudice aculeato.* Plum. Nov. Gen. The Silk Cotton-tree, with a thorny Stem.

2. *CEIBA viticis foliis, caudice glabro.* Plum. Nov. Gen. The Silk Cotton-tree, with a smooth Stem.

These two Trees grow very plentifully both in the *East* and *West-Indies*, where they arrive to a prodigious Magnitude: the *West-Indians* hollow the Trunks of these Trees for making their Canoes, for which they are chiefly valued.

It is reported, that in the Island of *Cuba*, in *Columbus's* first Voyage, was seen a Canoe made of an hollowed Trunk of one of these Trees, which was ninety-five Palms long, and capable of containing one hundred and fifty Men. And some modern Writers have affirmed, that there are Trees now growing in the *West-Indies* so large, as scarcely to be fathom'd by sixteen Men, and so high, that an Arrow can scarcely be shot to their Tops.

The Wool of these Trees is of a dark Colour, and too short to spin; so that it is little valued: but sometimes the Inhabitants stuff Beds and Pillows with it, tho' it is accounted unwholesome to lie upon. The Inhabitants of the *West Indies* call this Silk-cotton; but the antient *American* Name for this Plant being *Ceiba*, Father *Plumier* hath continued it under that Name, and constituted a Genus for it.

These Plants are preserved in some curious Gardens in *Europe*, where they thrive very well, if placed in a Bark-stove; but as they are Trees of a large Growth, it can

hardly be expected to see either Fruit or Flowers from them in *England*; since they grow to a great Magnitude, before they produce either in their own Country.

These Plants may be raised from Seeds, which are easily obtained from the *West-Indies*: they must be sown on an Hot-bed early in the Spring; and when the Plants are come up, they must be each transplanted into a small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark; observing to water and shade them until they have taken Root; after which they must have free Air let into the Hot-bed, in proportion to the Warmth of the Season; for if the Glasses are kept too close, the Plants will draw up too weak. In a Month or five Weeks time, these small Pots will be filled with the Roots of the Plants; therefore you must shake the Plants out of them; and after having pared off the outside Roots, they must be put into Pots a Size larger, and plunged again into the Hot-bed; observing to manage them as was before directed. When the Plants are grown too tall to remain in the Hot-bed, they must be removed into the Bark-stove; where, during the Summer-season, they should have a large Share of fresh Air; but in Winter they must be kept pretty close; and as the Plants increase in Magnitude, they should be shifted into larger Pots, that their Roots may have room to extend. If these Rules be duly observed, the Plants will, in two or three Years, arrive to the Height of ten or twelve Feet, and be proportionably strong; and being placed among other Plants, which require the same Degree of Heat, they add to the Variety.

There are some other Sorts of this Tree in the *Spanish* Settlements of

of America; and I have raised one Sort, which came from Siam, whose Leaves resembled those of Marsh-mallow; but the Down and Seeds were exactly the same as of the common Sorts. Those Pods, which I received from Panama, were of a different Figure from the common Sorts; as was the Down also; for that was in one of a purple Colour, and the other was of a dark-red. The Down of both these Sorts is, by the Inhabitants of those Countries, wrought into Garments; and they retain their original Colour, so that they are never dyed.

There are some other Kinds of this Tree in the East-Indies, which make a more beautiful Appearance than either of the American Sorts: one of these is now growing in his Grace the Duke of Richmond's Garden at Goodwood; which is above twelve Feet high, and the Leaves grow regularly round the Stem, upon very long Footstalks; and the Leaves are large, deeply divided into seven or eight Parts, and are smooth, of a fine shining-green Colour: the Stem of this Sort is very smooth, and the whole Plant makes a fine Appearance in the Stove. All these Sorts require the same Degree of Heat to preserve them in Winter, as those which are Natives of America, and will succeed with the same Culture.

CELASTRUS, The Staff-tree.

The Characters are;

The Empalement consists of one Leaf, cut at the Top into several unequal Segments: the Flower consists of five Leaves, which are equal, spread open, and reflexed: the Pointal is small, and situated in the Bottom of the Flower, attended by five Stamina: the Pointal afterward becomes a Capsule covered with a red Filament,

divided into three Cells, each containing one hard Seed.

The Species are;

1. CELASTRUS *inermis*, foliis ovatis serratis trinerviis, racemis ex summis alis longissimis. Lin. Hort. Cliff. Smooth Staff-tree, with oval sawed Leaves, having three Ribs, and Spikes of Flowers growing on the Tops of the Branches.

2. CELASTRUS *ramis teretibus, spinis nudis, foliis acutis*. Lin. Hort. Cliff. Staff-tree with taper Branches, naked Spines, and pointed Leaves.

3. CELASTRUS *inermis, foliis ovatis rugosis minime serratis, caule volubili*. Smooth Staff-tree, with oval rough Leaves, which are slightly sawed on their Edges, and a climbing Stalk.

4. CELASTRUS *ramis angulosis, spinis foliosis foliis obtusis*. Lin. Hort. Cliff. Prickly Staff-tree, with angular Branches, Leaves growing out of the Spines, and blunt Leaves.

5. CELASTRUS *inermis, foliis lanceolatis, obtuse serratis, petiolis appendiculatis*. Lin. Hort. Cliff. Smooth Staff-tree, with spear-shaped Leaves bluntly sawed, and small Appendages to the Footstalks.

This Name of Celastrus was formerly applied to one of the Sorts of Alaternus; but Dr. Linnaeus has constituted a Genus by that Name, to which he has brought several Plants which agree in their characteristic Notes, which were before put into several Genera.

The first Sort here mentioned is a Native of the Northern Parts of America, from whence it hath been introduced into the English Gardens; where it thrives extremely well, and bears the open Air in Winter. This grows to be about five or six Feet high, and generally sends out Branches very regularly, so as to form

an handsome Head: at the Extremity of every Branch is put forth a Spike or Cluster of white Flowers, which blow in *July*, and, during their Continuance, the whole Shrub seems covered with Flowers; which makes a very fine Appearance, and deserves a Place in every curious Garden. This Sort has never yet perfected Seeds in *England*; but is propagated by Layers, when the Seeds cannot be obtained from abroad. It was formerly placed in the Genus of *Euonymus*, or Spindle-tree.

The second Sort is a Native of the *Cape of Good Hope*: this will not live in the open Air in *England*; therefore is kept in Pots, and housed in a common Green-house in Winter. This will grow to the Height of six or seven Feet, and may be trained up to a regular Stem; and, as it is an Ever-green, will make a pretty Variety in Winter, especially when it comes to bear Fruit; which are pretty large, and of a fine red Colour; and, ripening in Winter, they make a fine Appearance, being intermixed with the green Leaves. This is propagated by laying down the Side-branches, which, in one Year, will have taken Root. The best Season for making these Layers is in the Month of *September*: it may also be propagated by Cuttings, which should be planted in *July*, and must be screened from the Sun in hot Weather: these Cuttings will be a whole Year before they will have made Roots strong enough to transplant. Sometimes the Fruit will ripen so well, as to grow; but these Seeds will not come up the first Year; therefore the Pots in which the Seeds are sown, must be sheltered the following Winter, and plunged into a moderate Hot-bed in the Spring; which will bring up the Plants. These Plants may

be exposed in Summer, with Myrtles, and other hardy Green-house Plants; and may be treated in the same manner with those. This was called *Lycium Æthiopicum*, &c.

The third Sort is a Native of *Virginia* and *Carolina*, from whence the Seeds have been brought into *England*. This, being a very hardy Plant, will thrive in the open Air, and is not injured by Frost: it hath a climbing Stalk, and will twine about any of the neighbouring Trees, and mount to a considerable Height. It produces its Flowers from the Wings of the Leaves, which are produced in small Bunches, and are of an herbaceous Colour: these come out in *June*, and are succeeded by the Fruit; which has a soft pulpy Cover, of a Red or Orange-colour, which opens into three Cells, each having one stony Seed. These Fruit are ripe in *October*, but will continue a Month or six Weeks; during which time they make an handsome Appearance. This may be propagated by laying down the Branches at *Michaelmas*; which will have taken Root by that time Twelve-month, and may then be transplanted out, where they are designed to remain: they will also produce Suckers, which may be taken off with good Roots. The Seeds of this Plant will remain a whole Year in the Ground; so that when it is propagated that way, the Ground must remain undisturbed till the Plants come up. When these Plants are not planted near Trees, to which they may twine, there should be large Poles fixed in the Ground by them, that they may twine round, to be supported, otherwise they will trail upon the Ground, and become unsightly: this is called Climbing *Euonymus*.

The fourth and fifth Sorts are Natives of the *Cape of Good Hope*: these

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these will not live thro' the Winter in the open Air in *England*: but they are always housed in Winter with the hardiest of the Green-house Plants, and may be treated accordingly. The fourth Sort is a low bushy Shrub, seldom rising above three Feet high in this Country: this produces Clusters of white Flowers, at the Extremity of all the Branches; so makes an handsome Appearance during the Continuance of the Flowers. The Leaves continue green all the Winter; but the Plant is not very thick clothed with them: these Leaves bear a great Resemblance, in their Shape, to those of the Barberry-tree, but are not quite so large. This Sort is propagated from Suckers, and by Layers: but as these Plants do not send forth many Suckers, and the Layers being two Years in making Roots, these Plants are not very common in the *English* Gardens.

The fifth Sort has been long in the Gardens, and is better known by the former Name than this, which has been lately added to it. The old Name is *Alaternoides Africana, lauri serrati folio*. But this agreeing with the other Plants of this Genus, in its Flower and Fruit, Dr. *Linnaeus* has joined it to them. This Sort will grow to the Height of ten or twelve Feet; the Branches are weak and straggling, and the Flowers small, and of an herbaceous Colour, therefore doth not make much Shew: but as it is an Evergreen, many People allow a Plant or two to have Place in their Green-houses. It may be easily propagated by Cuttings, during any of the Summer-months; which need no Care but to plant them in a shady Border, and water them in dry Weather.

CELERY, or SALARY. *Vide Apium.*

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CELSIA. This Name was given to this Plant in Honour to Dr. *Olaus Celsus*, Professor of Philosophy and Theology in the University of *Upsal* in *Sweden*, by Dr. *Linnaeus*. We have no *English* Name for it.

The Characters are;

The Empalement of the Flower is cut into five obtuse Segments: the Flower consists of one Leaf, which is cut into five Parts, and expands in a circular Order, having a very short Tube: in the Centre of the Flower are placed four Stamina, two of which are longer than the other: the Ovary, which is fixed in the Centre of the Empalement, afterward becomes a round Pod, opening in two Cells, and filled with small Seeds.

We have but one Species of this Plant; which is,

CELSIA foliis duplicato-pinnatis. Lin. Hort. Cliff. Celsia with double pinnated Leaves.

This Plant is ranged in the Genus of Mullein by *Tournefort* and *Boerhaave*, by the Title of *Verbascum Orientale, sophiæ folio*, or Eastern Mullein, with a Flix-weed-leaf; but Dr. *Linnaeus* has separated it from that Genus, on account of the Number and Position of the Stamina, the Flowers of *Verbascum* having five declined Stamina of equal Length, whereas this has but four, two of which are longer than the other, which, by the characteristic Notes of his Method, removes them to a great Distance from each other.

It is an annual Plant, which commonly succeeds better, if the Seeds are sown in *August*, soon after they are ripe, than when they are kept till the Spring; for the Seeds which are then sown frequently remain in the Ground till the following Spring, before they come up: these Seeds should be sown upon an open Border, where they are to remain, and require

require no other Culture, but to keep them clear from Weeds.

CELTIS, The Lote or Nettle-tree.

The Characters are;

The Leaves are somewhat like those of the Nettle: the Flowers consist of five Leaves, which are expanded in form of a Rose, containing many short Stamina, or Threads, in the Bosom: the Fruit grows single in the Bosom of its Leaves, which is a roundish Berry.

The Species are;

1. CELTIS fructu obscure purpurascens. Tourn. The dark purplish-fruited Lote or Nettle-tree.

2. CELTIS fructu nigricans. Tourn. The Nettle-tree with black Fruit.

3. CELTIS fructu luteo ampliori. The Nettle-tree with large yellow Fruit.

4. CELTIS Orientalis, folio ampliore, magno fructu. T. Cor. The Eastern Lote or Nettle-tree, with larger Leaves and Fruit.

5. CELTIS Orientalis minor, foliis minoribus & crassioribus, fructu flavo. T. Cor. Smaller Lote or Nettle-tree, with smaller and thicker Leaves, and yellow Fruit.

6. CELTIS Americana, folio citri subtus aureo, fructu rubro. Plum. American Lote or Nettle-tree, with a Citron-leaf, and a red Fruit.

The first of these Trees was originally brought from Virginia; but is found to thrive very well in our Climate, there being several large Trees of this Kind in the Gardens of curious Planters, but particularly one in the Garden which formerly belonged to John Tradescant at South-Lambeth, near Vauxhall in Surry, and another in the Physic-garden at Chelsea, both which are large Trees, and the latter produces ripe Fruit annually, from whence several young Trees have been

raised. The second Sort, tho' a Native of Europe, yet is less common in England than the former, and only to be seen in some curious Collections of Trees, particularly in the Gardens of the late Dr. Uvedale at Enfield, where there is one large Tree remaining: and of late there have been some young Plants of this Kind raised from the Seeds which have been procured from Abroad: this Sort is very common in Italy, Spain, and likewise in the South of France: the Berries of this Sort are larger than those of the other Kinds, and are of a shining black Colour: the Leaves are longer and narrower than those of the first Sort; but, in other respects, very like to that.

The third Sort is probably a Native of America also: this Tree hath been many Years growing in Devonshire, where are several large ones, which have produced ripe Seeds, from whence the Gardens near London were supplied with young Plants.

The fourth and fifth Sorts were discovered by Dr. Tournefort in his Travels, who sent their Fruits to the Royal Garden at Paris; where they were raised, and have been since distributed to many curious Gardens in Europe. These two Sorts are as hardy as those before-mentioned, so that they will endure the sharpest Winters in the open Air, especially when they have acquired sufficient Strength; for many of these Trees may suffer by Cold, when they are young, tho' afterward they are capable of resisting the severest Cold of this Country.

These are all of them very hardy, enduring the severest of our Winters in England very well, and grow to be large Trees: they may be propagated either from Layers, or by Seeds:

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Seeds : the Layers are commonly two Years before they take Root sufficient for transplanting ; and if they are not frequently watered, will rarely take Root. The best time for transplanting these Trees is in *March*, just before they begin to put out, observing to mulch their Roots, and water them well until they have taken Root. This Tree seems to thrive best upon a moist Soil, tho' it will grow tolerably well upon almost any Soil, when it is well fixed therein.

The Seeds of this Tree should be sown in the Spring of the Year, soon after they are ripe, which is commonly in *January*, and the Ground kept clear from Weeds, but not stirred ; for the Seeds seldom appear before the second Spring : therefore the best Method is, to sow them in Boxes, and manage them as was directed for the Berry-bearing Cedar ; to which I refer the Reader, to avoid Repetition.

These Trees are very useful in forming Clumps, or for planting of Amphitheatres of various Kinds of deciduous Trees ; for the Heads of these naturally grow very thick and regular, and their Leaf is of a deep pleasant green Colour, making a very good Diversity among other Kinds : and altho' it is none of the earliest Trees in putting out in the Spring of the Year, yet it recompenseth for this Defect, by its long Continuance in Autumn, retaining its Leaves in perfect Vigour, when few other deciduous Trees have any Leaves left upon them.

The sixth Sort was discovered by Father Plumier in *America* : this is a tender Plant, and will not live out of a Stove in this Country. It may be propagated by Seeds, which must be procured from the *West-Indies* ; for it hath never produced

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Fruit in *Europe* : the Seeds should be sown in Pots filled with light fresh Earth, and then plunged into an Hot-bed of Tanners Bark : these Pots must be constantly watered, and in the Middle of the Day, when the Weather is mild, the Glasses of the Hot-bed should be raised to admit fresh Air, and to let the Steam of the Bed pass off. When the Plants are come up about two Inches high, they should be each transplanted into a separate small Pot filled with fresh light Earth, and plunged again into the Hot-bed, observing to shade the Glasses every Day, until the Plants have taken Root ; as also to water them duly, as you perceive the Earth to dry. During the Heat of Summer, the Plants must have a large Share of fresh Air every Day ; but at *Michaelmas* they must be removed into the Bark-stove, and managed as the Coffee-tree, and other tender Exotic Plants ; where they will thrive very well ; and having strong shining Leaves, will make an agreeable Variety.

The Fruit of this Tree is not so tempting with us, as is storied it was to the Companions of *Ulysses* : but the Wood is reckoned to be of a very durable Nature, and is commonly used to make Pipes, and other Wind-instruments. Its Root is very proper to make Hafts for Knives, and other Tools ; and it is reported, that they were held in great Esteem by the *Romans*, for their incomparable Beauty and Use.

CENTAURIUM MAJUS, The greater Centaury.

The Characters are ;

It is one of the Plantæ capitatæ, or of those Plants whose Flowers are collected into an Head, as the Thistle, &c. and hath a perennial Root : their Leaves are without Spines, and are sawed

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sawed on their Edges: the Cup of the Flower is squamose, but has no Spines: the Florets are large and specious.

The Species are;

1. *CENTAURIUM majus, folio benedicti incano. Tourn.* Greater Centaury, with hoary Leaves like those of Elecampane.

2. *CENTAURIUM folio cinaræ. Cornut.* Greater Centaury, with Artichoke-leaves.

3. *CENTAURIUM majus Alpinum luteum. C. B.* Greater yellow Centaury of the Alps.

4. *CENTAURIUM majus, folio in laciniis plures diviso. C. B.* Greater Centaury, with cut Leaves.

5. *CENTAURIUM majus alterum laciniatum, purpurascens flore. H. R. Par.* Another cut-leav'd Centaury, with purplish Flowers.

6. *CENTAURIUM majus Orientale erectum, glasti folio, flore luteo. T. Cor.* Greater Eastern Centaury, with Leaves like Woad, and yellow Flowers.

7. *CENTAURIUM majus Africanum acaulon, cinaræ folio. Jussieu.* Greater African Centaury without Stalks, and Leaves like the Artichoke.

8. *CENTAURIUM majus, folio molli acuto laciniato, flore aureo magno, calyce spinoso. Boerb. Ind. Alt.* Greater Centaury, with a woolly Leaf cut into sharp Segments, a large yellow Flower, and prickly Empalement.

9. *CENTAURIUM majus incanum humile, capite pini. Inst. R. H.* Low hoary greater Centaury, with an Head like the Cone of the Pine-tree.

10. *CENTAURIUM majus Lusitanicum laciniatum lanuginosum humilius. Inst. R. H.* Low greater Centaury, with woolly cut Leaves.

11. *CENTAURIUM majus Lusitanicum, coronopifolio. Inst. R. H. Por-*

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tagal greater Centaury, with an Hart's-horn-leaf.

12. *CENTAURIUM majus Orientale, verbasci folio. Inst. R. H.* Eastern greater Centaury, with a Mullein-leaf.

They are all of them propagated either by sowing their Seeds, or parting their Roots; the latter of which is most commonly practised in England, their Seeds seldom ripening in our Country, unless the Season is very favourable. The best Season for this Work is either in October or February.

When you have a mind to increase any of these Plants, you should open the Ground about their Roots, and clear them of the Earth: then, where you find any of the Side-heads, which will part with Roots to them, you should carefully force them off; which when you have done, you must lay the Earth up again to the old Plant, settling it close with your Hands; and if the Ground is dry, give it a little Water: and having prepared a proper Place for the young Plants, which should be in a sandy loamy Soil, and a warm Situation, you may either plant them in Beds, at about a Foot square, or at Distances in the Borders of large Gardens, by way of Ornament; and altho' the Flowers have no very great Beauty, yet the regular Growth of the Plants, together with their long Continuance in Flower, renders them worthy of a Place in all large Gardens.

The Season for sowing the Seeds of any of these Species is in March, in an open Bed of common light Earth; and in May, when the Plants are come up, they may be transplanted into Nursery-beds until Michaelmas; by which time they will have gotten Strength enough to transplant into any other Parts of the Garden

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Garden where you design them to remain.

The third, sixth, Seventh, eighth, tenth, eleventh, and twelfth Sorts are most valuable for a Pleasure-garden, as being less subject to grow rude and ungovernable; and their Flowers are of a long Duration. The third Sort is the largest of the three, and should be planted in the Middle of large Borders, where they will look very handsome: but these are not proper for small Gardens, where they will take up too much Space; for when the Plants are strong, they will produce great Numbers of Branches, which will spread wide, and grow very tall, so that each Plant will require at least three or four Feet; nor should they stand near other Plants, for they will over-bear and destroy them: however, in large Borders, in open Wilderness-quarters, they may be allowed a Place, for their long Continuance in Flower, especially as they will require very little Culture.

The eighth Sort will not ramp so much as most of the others; so may be placed in a Flower-garden.

The fourth Sort is used in Medicine, and therefore deserves to be cultivated in Physic-gardens; nor is it unpleasant in any Garden. The first and second Sorts may be admitted for a Variety in large Gardens, to fill empty Borders, where the Difference of their Leaves and Flowers will appear very well among Plants of large Growth. These Plants begin to produce their Flowers in June, and continue most Part of July; but very rarely produce ripe Seeds in this Country.

CENTAURIUM MINUS,
Lesser Centaury.

The Characters are;

The Leaves grow by Pairs, oppo-

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sited to each other: the Flower consists of one Leaf, is funnel-shaped, and divided into five acute Segments; these grow on the Tops of the Stalks in Clusters: the Seed-vessel is of a cylindrical Form, and is divided into two Cells, in which are contained many small Seeds.

The Species are;

1. CENTAURIUM minus. C. B.
Common lesser Centaury.

2. CENTAURIUM minus, flore albo.
H. Eyst. Lesser Centaury, with white Flowers.

3. CENTAURIUM luteum perfoliatum. C. B. Lesser yellow Centaury, with Leaves surrounding the Stalks.

4. CENTAURIUM minus maritimum Americanum, amplo flore cœruleo.
Plum. Cat. American Sea lesser Centaury, with a large blue Flower.

The three first Plants grow wild in England: the first is commonly found growing upon dry arable Land, chiefly among Corn. The second is a Variety of the first, from which it only differs in the Colour of the Flower: this is sometimes found with the first. The third Sort grows commonly upon chalky Hills in divers Parts of England: but neither of these Kinds care to grow in a Garden. The only Method that can be taken to cultivate these, is to sow the Seeds as soon as they are ripe, in an open well-exposed Place, and in a poor dry Soil, with which these Plants agree: nor should the young Plants be removed, if they come up, but suffered to remain in the same Places for good. The first Sort is used in Medicine, and is gathered in the Fields, and brought to Market for that Purpose.

The Seeds of the fourth Sort were sent from La Vera Cruz by the late Dr. William Houstoun, who found this Plant in great Plenty upon low swampy Grounds, where the Water stagnated,

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stagnated, at a great Distance from the Sea, in the Country about *Vera Cruz*.

This Plant may be propagated by Seeds, which should be sown early in the Spring on a moderate Hot-bed; and when the Plants are come up, and are strong enough to transplant, they should be each put into a separate small Pot filled with light fresh Earth, and placed into an Hot-bed of Tanners Bark, screening them from the Sun, until they have taken new Root; after which time they must have a large Share of fresh Air in warm Weather, and should be frequently refreshed with Water. With this Management the Plants will produce their beautiful blue Flowers in Autumn; and if they are removed into the Bark-stove, may be preserved through the Winter; so that the following Year there may be Hopes of their producing ripe Seeds, whereby the Plant may be preserved; for it seldom continues, after it has perfected Seeds.

CENTINODIUM, Knot-grafs.
CEPA, The Onion.

The Characters are;

It hath an orbicular, coated, bulbous Root: the Leaves are hollow or pipy: the Stalk is also hollow, and swells out in the Middle: the Flowers, which consist of six Leaves, are collected into a spherical Head, or Corymbus: the Style of the Flower becomes a roundish Fruit, which is divided into three Cells, containing roundish Seeds.

The Species are;

1. *CEPA oblonga*. C. B. The Strasbourg Onion, *vulgo*.
2. *CEPA vulgaris, floribus & tunicis purpurascens*. C. B. The red Spanish Onion, *vulgo*.
3. *CEPA vulgaris, floribus & tunicis candidis*. C. B. The white Spanish Onion, *vulgo*.

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4. *CEPA Ascalonica Matthioli*. Boerb. Ind. The Scallion or Escalion.

5. *CEPA scetilis juncifolia perennis*. M. H. Cives.

6. *CEPA scetilis major perennis*. Welsh Onion, *vulgo*.

7. *CEPA fissilis Matthioli*. Lugd. Ciboule.

There are several other Sorts of Onions of lesser Note, which are preserved in the Gardens of curious Botanists, some of which grow wild in *England*: but these above-mentioned are the Sorts which are chiefly cultivated for Kitchen-use. The three Sorts first-mentioned are propagated for Winter-use, their Roots being preserved dry during that Season. Of these I shall first treat.

These three Sorts of Onions are propagated by Seeds, which should be sown at the Latter-end of *February*, or the Beginning of *March*, on good rich sandy Ground (but not too thick; the common Quantity of Seed allowed to sow on an Acre of Ground being eight Pounds): in about a Month or six Weeks after sowing, the Onions will be up forward enough to hoe; at which time (choosing dry Weather) you should with a small Hoe, about two Inches and an half broad, cut up lightly all the Weeds from amongst the Onions; cutting out also the Onions, where they grow too close in Bunches, leaving them at this first Hoeing two Inches apart. This, if well performed, and in a dry Season, will preserve the Spot clear of Weeds, at least a Month; at which time you must hoe them over a second time, cutting up all the Weeds, as before, and also cutting out the Onions to a larger Distance, leaving them this time three Inches asunder. This also, if well performed, will preserve

serve the Ground clean a Month longer, when you must hoe them over the third and last time.

You must now carefully cut up all Weeds, and single out the Onions to near five or six Inches square; by which means they will grow much larger than if left too close. This time of Hoeing, if the Weather proves dry, and it is well perform'd, will keep the Ground clean until the Onions are fit to pull up: but if the Weather should prove moist, and any of the Weeds should take Root again, you should, about a Fortnight or three Weeks after, go over the Spot, and draw out all the large Weeds with your Hands; for the Onions having now begun to bulb, they should not be disturbed with an Hoe.

Toward the Middle or Latter-end of *July*, your Onions will have arrived to their full Growth, which may be known by their Blades falling to the Ground, and shrinking: you should therefore, before their Necks or Blades are withered off, draw them out of the Ground, cropping off the extreme Part of the Blade, and lay them abroad upon a dry Spot of Ground to dry, observing to turn them over every other Day, at least, to prevent their striking fresh Root into the Ground; which they will suddenly do, especially in moist Weather.

In about a Fortnight's time your Onions will be dry enough to house, which must be performed in perfect dry Weather: in doing of this, you must carefully rub off all the Earth, and be sure to mix no faulty ones among them, which will in a short time decay, and spoil all those that lie near them; nor should you lay them too thick in the House, which would occasion their sweating, and thereby rot them: these should not

be put in a lower Room, or Ground-floor, but in a Loft or Garret; and the closer they are kept from the Air, the better they will keep. You should, at least, once a Month look over them to see if any of them are decayed; which, if you find, must be immediately taken away, otherwise they will infect all that lie near them.

The best Onions for keeping are the *Straßburg* Kind, which is an oval-shaped Bulb; but this seldom grows so large as the *Spanish*, which is flatter: the white Sort is esteemed the sweetest; but these Varieties are not lasting; for if you save Seeds of white Onions only, you will have a Mixture of the red ones among them; nor will the *Straßburg* Onion keep long to its Kind, but will by degrees grow flatter, as do the large *Portugal* Onions, when planted in our Climate, which, in a Year or two, will be so far degenerated as not to be known they were from that Race.

But, in order to preserve Seeds, you must in the Spring make choice of some of the firmest, largest, and oval-shaped Onions (in Quantity proportionable to the Seed you intend to save); and having prepared a Piece of good Ground (which should be well dug, and laid out in Beds about three Feet wide), in the Beginning of *March* you must plant your Onions, in the following manner: Having strained a Line about four Inches within the Side of the Bed, you must, with a Spade, throw out an Opening about six Inches deep, the Length of the Bed, into which you should place the Onions, with their Roots downward, at about six Inches Distance from each other; then with a Rake draw the Earth into the Opening again to cover the Bulbs; then proceed to remove the
Line

Line again about ten Inches or a Foot farther back, where you must make an Opening as before, and so again, till the Whole is finished; so that you will have four Rows in each Bed, between which you must allow a Space of two Feet for an Alley to go among them to clear them from Weeds, &c. In a Month's time their Leaves will appear above-ground, and many of the Roots will produce three or four Stalks each: you must therefore keep them diligently cleared from Weeds; and about the Beginning of *June*, when the Heads of the Seed begin to appear upon the Tops of the Stalks, you must provide a Parcel of Stakes about four Feet long, which should be driven into the Ground, in the Rows of Onions, at about six or eight Feet apart, to which you should fasten some Packthread, Rope-yarn, or small Cord, which should be run on each Side the Stems of the Onions, a little below their Heads, to support them from breaking down with the Wind and Rain.

About the Beginning of *August* the Onion-seed will be ripe, which may be known by its changing brown, and the Cells in which the Seeds are contained opening; so that if it be not cut in a short time, the Seeds will fall to the Ground: when you cut off the Heads, they should be spread abroad upon coarse Cloths in the Sun, observing to keep it under Shelter in the Night, as also in wet Weather; and when the Heads are quite dry, you must beat out the Seeds, which are very easily discharged from their Cells; then having cleared it from all the Husk, &c. after having exposed it one Day to the Sun to dry, you must put it up in Bags to preserve it for Use.

The Scallion, or Escallion, is a Sort of Onion which never forms

any Bulbs at the Roots, and is chiefly used in the Spring for green Onions, before the other Sorts, sown in *July*, are big enough; but this Sort of Onion, how much soever in Use formerly, is now so scarce as to be known to few People, and is rarely to be met with, except in curious Botanic Gardens: the Gardeners near *London* substitute another Sort for this, which are those Onions which decay and sprout in the House: these they plant in a Bed early in the Spring, which in a short time will grow to be large enough for Use: when they draw them up, and after pulling off all the outer Coat of the Root, they tie them up in Bunches, and sell them in the Market for Scallions.

This true Scallion is easily propagated by parting the Roots, either in Spring or Autumn; but the latter Season is preferable, because of their being rendered more fit for Use in the Spring: these Roots should be planted three or four together in an Hole, at about six Inches Distance every Way, in Beds or Borders three Feet wide, which in a short time will multiply exceedingly, and will grow upon almost any Soil, and in any Situation; and their being so hardy as to resist the severest of our Winters, and being green, and fit for Use so early in the Spring, renders them worthy a Place in all good Kitchen-gardens.

The Cives are a very small Sort of Onion, which never produces any Bulbs, and seldom grows above six Inches high in the Blade, which is very small and slender, and grows in Bunches like the former: this was formerly in great Request for Salads in the Spring, as being somewhat milder than those Onions which had stood through the Winter: these are propagated by parting their
Roots,

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Roots like the former, and are also very hardy, and will be fit for Use early in the Spring.

The *Welsh Onions* are only propagated for Spring-use also: these never make any Bulb, and are therefore only fit to be used green for Sallads, &c. They are sown about the End of *July*, in Beds of about three Feet and an half wide, leaving Alleys of two Feet broad to go between the Beds to clean them, and in about a Fortnight's time they will appear above-ground, and must be carefully cleared from Weeds: towards the Middle of *October*, their Blades will die away, so that the whole Spot will seem to be naked, which hath led many People to dig up the Ground again, supposing the Crop totally lost; whereas, if they are let stand undisturbed, they will come up again very strong in *January*, and from that time grow very vigorously, resisting all Weathers, and by *March* will be fit to draw for young Onions, and are, in the Markets, more valued than any other Sort at that Season; for they are extremely green and fine, though they are much stronger than the common Onion in Taste, approaching nearer to Garlick, which hath occasioned their being less esteemed for the Table: but as no Winter, however hard, will hurt them, it is proper to have a few of them to supply the Table, in case the common Sort should be destroyed by Frosts.

The Roots of these Onions, if planted out at six or eight Inches Distance, in *March*, will produce ripe Seeds in Autumn; but it will be in small Quantities the first Year: therefore the same Roots should remain unremoved, which the second and third Year will produce many Stems, and afford a good Supply of Seeds: these Roots will abide many Years

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good, but should be transplanted and parted every second or third Year, which will cause them to produce strong Seeds.

The Ciboule, and the Scallion, I believe to be the same, although by most Authors they are made two distinct Species; and the *Welsh Onion* differs so little from them, as to render it difficult to determine wherein the Difference consists; for although it is commonly known in the *London Markets* by that Name, yet doubtless it is not a Native of *Wales*, nor is it certain if they have it in their Gardens in that Country: there is likewise so great an Affinity between the Eschalot, or Shallot, as it is commonly called, and the Cives, as to render it doubtful whether they are distinct Species.

CEPHALANTHUS, Button-wood.

The Characters are;

The Flowers are tubulous, consisting of one Leaf, which are collected into an Head, and have one common Empalement, which is divided into five Parts: the Ovarium, which is situated in the Bottom of the Flower, afterward turns to a Seed, which is oblong; and the whole Head of Flowers becomes a conical Vessel of a dry woody Substance, resembling a Button.

The Species are;

1. CEPHALANTHUS *foliis oppositis*. Flor. Leyd. Button-tree with Leaves growing opposite.

2. CEPHALANTHUS *foliis ternis*. Lin. Hort. Cliff. Button-tree with three Leaves growing at each Joint.

There are some Persons who affirm these two are the same Sort, and that their having two or three Leaves at each Joint is accidental; as also that the same Tree will have the two Orders of Leaves; but in all the Plants which I have raised from

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Seeds,

Seeds, the Difference hath continued; however this may be in the natural Place of their Growth, the Inhabitants of those Countries can best inform us.

These Trees are Natives of *Virginia*, *New-England*, *Maryland*, and *Carolina*; as also of most Places on the Northern Continent of *America*; but to what Size they there grow, I cannot say: in *England* there are none of these Trees above seven or eight Feet at present; the largest I have yet seen, are growing in the curious Gardens of his Grace the Duke of *Argyll* at *Whitten* near *Hounslow*: these have produced plenty of Flowers for some Years past; but as yet they have not perfected any Seeds.

They are propagated by Seeds (which must be procured from abroad): these Seeds may be sown on a Bed of light Earth, as soon as they arrive; for they generally remain a Year in the Ground, so that the following Summer the Bed must be kept clear from Weeds; and in hot dry Weather, if the Bed is shaded from the Sun in the Middle of the Day, and duly watered, there will be a much greater Certainty of the Seeds growing than if these are neglected.

The first Year, when the Plants come up, it will be necessary to repeat the Covering in hot dry Weather, especially while the Plants are young; at which time they are often destroyed by being too much exposed: nor should the Watering be neglected; for as these Plants naturally grow on moist Ground, so when they are not duly watered in dry Weather, the young Plants will languish and decay.

The next Autumn, when the Leaves begin to drop, the young Plants may be transplanted into Nur-

fery-beds, which should be a little defended from the cold Winds; and if the Soil is moist, they will succeed much better than in dry Ground; but where it happens otherwise, it will be absolutely necessary to water them in dry Weather, otherwise there will be great Danger of the Plants dying in the Middle of the Summer, which has been the Case in many Gardens where these Plants were raised.

In these Nursery-beds the Plants may remain a Year or two (according to the Progress they may have made, or the Distance they were planted); then they may be taken up in *October*, and transplanted where they are to remain for good: although I have mentioned but one Season for transplanting them, yet this may also be performed in the Spring, especially if the Ground is moist into which they are removed, or that the Plants are duly watered, if the Spring should prove dry; otherwise there will be more Hazard of their growing when removed in the Spring.

These Plants make a pretty Variety among other hardy Trees and Shrubs, being extreme hardy in respect to Cold; but they delight in a moist light Soil, where they will grow very fast, and their Leaves will be larger, than in dry Land.

CERASUS, The Cherry tree.

The Characters are;

It hath large shining Leaves: the Fruit grows on long Pedicles (or Foot-stalks), and is roundish, or heart-shaped: the Stone is short, tumid, and roundish.

The Species are;

1. *CERASUS sativa, fructu rotundo rubro & acido. Tourn.* The common Red or Garden Cherry.

2. *CERASUS sativa, fructu majori. Tourn.* Large Spanish Cherry.

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3. *CERASUS major, fructu magno cordato rubro.* The Red-heart Cherry.

4. *CERASUS major, fructu magno cordato albo.* The White-heart Cherry.

5. *CERASUS major, fructu magno cordato sanguineo.* The Bleeding-heart Cherry.

6. *CERASUS major, fructu cordato nigro.* The Black-heart Cherry.

7. *CERASUS Maialis, fructu duro subdulci.* Tourn. The May Cherry.

8. *CERASUS major, ac sylvestris, fructu subdulci, nigro colore inficiente.* C. B. The Black Cherry or Mazzard.

9. *CERASUS fructu magno rubro turbinato.* Tourn. The Archduke Cherry.

10. *CERASUS Sicala, fructu castanei coloris.* Tourn. The yellow Spanish Cherry, *vulgo.*

11. *CERASUS uno pediculo plura ferens.* J. B. The Flanders Cluster Cherry.

12. *CERASUS fructu incarnato.* The Carnation Cherry.

13. *CERASUS sativa, fructu orbiculato nigerrimo micante.* Tourn. The large black Cherry.

14. *CERASUS bortenensis, flore roseo.* C. B. The rose-flowered Cherry.

15. *CERASUS bortenensis, pleno flore.* The double-flowered Cherry.

16. *CERASUS sylvestris, fructu rubro.* J. B. Common wild Cherry.

17. *CERASUS sylvestris septentrionalis Anglica, fructu rubro parvo serotino.* Raii Hist. The wild Northern English Cherry, with late-ripe Fruit.

18. *CERASUS sylvestris amara, Mahaleb putata.* J. B. The Rock or perfumed Cherry.

19. *CERASUS bortenensis, foliis eleganter variegatis.* The Cherry-tree with striped Leaves.

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There are many other Sorts of Cherries cultivated in curious Fruit-gardens; as the Amber Cherry, Lukeward, Corone, Gascoigne, Morrello, and *Hertfordshire* Duke.

All the Sorts of Cherries which are usually cultivated in Fruit-gardens, are propagated by budding or grafting the several Kinds into Stocks of the Black, or wild Red Cherries, which are strong Shooters, and of a longer Duration than any of the Garden-kinds. The Stones of these two Kinds are sown in Beds of light sandy Earth in Autumn (or are preserv'd in Sand till Spring, and then sown): when these Stocks arise, they must be carefully weeded; and if in dry Weather you refresh them with Water, it will greatly promote their Growth. These young Stocks should remain in these Nursery-beds till the second Autumn after sowing; at which time you should prepare an open Spot of good fresh Earth, which should be well work'd: but if the Soil is fresh, it will be the better. In this Ground, in *October*, you should plant out the young Stocks at three Feet Distance Row from Row; and about a Foot asunder in the Rows; being careful, in taking them up from their Seed-beds, to loosen their Roots well with a Spade, to prevent their breaking; as also to prune their Roots: and if they are inclinable to root downwards, you should shorten the Tap-root, to cause it to put out lateral Roots: but do not prune their Tops; for this is what by no means they will endure.

The second Year after planting out, if they take to growing well, they will be fit to bud, if they are intended for Dwarfs; but if they are for Standards, they will not be tall enough until the fourth Year; for they should be budded or grafted

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near six Feet from the Ground ; for otherwise the Graft will not advance much in Height ; so that it will be impossible to make a good Tree from such as are grafted low, unless the Graft is trained upward.

The usual Way with the Nursery-gardeners is, to bud their Stocks in Summer : and such of them as miscarry, they graft the succeeding Spring (the manner of these Operations will be described under their proper Heads). Those Trees where the Buds have taken, must be headed off in the Beginning of *March*, about six Inches above the Bud : and when the Bud hath shot in Summer, if you fear its being blown out by the Winds, you may fasten it up with some Bafs, or such soft Tying, to that Part of the Stock which was left above the Bud. The Autumn following these Trees will be fit to remove. But if your Ground is not ready to receive them, they may remain two Years before they are transplanted : in the doing of which, you must observe not to head them, as is by many practis'd ; for this, very often, is immediate Death to them : but if they survive it, they seldom recover this Amputation in five or six Years.

If these Trees are intended for a Wall, I would advise the planting Dwarfs between the Standards ; so that while the Dwarfs are filling the Bottom of the Walls, the Standards will cover the Tops, and will produce a great deal of Fruit : but these, as the Dwarfs arise to fill the Walls, must be cut away, to make room for them : and when the Dwarf-trees cover the Walls, the Standards should be intirely taken away. But I would advise, never to plant Standard-cherries over other Fruits ; for there is no other Sort of

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Fruit that will prosper well under the Drip of Cherries.

When these Trees are taken up from the Nursery, their Roots must be shortened, and all the bruised Parts cut off ; as also all the small Fibres, which would dry, grow mouldy, and be a great Prejudice to the new Fibres in their coming forth ; you must also cut off the dead Part of the Stock which was left above the Bud, close down to the Back-part of it, that the Stock may be cover'd. If these Trees are design'd for a Wall, observe to place the Bud directly from the Wall, that the Back-part of the Stock that was cut, may be hid from Sight. The Soil that Cherries thrive best in, is a fresh Hazel-loam : but if the Soil is a dry Gravel, they will not live many Years, and will be perpetually blighted in the Spring.

The Sorts commonly planted against Walls are the Early *May* and *May Duke*, which should have a South Wall. The Hearts and common Duke will thrive on a West Wall ; and, in order to continue this Sort later in the Season, they are frequently planted against North and North-west Walls, where they succeed very well ; and the Morello on a North Wall ; which last is chiefly planted for preserving. The Hearts are all of them ill Bearers ; for which Reason they are seldom planted against Walls : but I am apt to believe, if they were grafted upon the Bird-cherry, and manag'd properly, that Defect might be remedied : for this Stock (as I am inform'd) will render Cherries very fruitful ; and having the same Effect on Cherries, as the Paradise stock hath on Apples, they may be kept in less Compass ; which is an Experiment well worth the Trial.

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Your Trees, if planted against a Wall, should be placed eighteen or twenty Feet asunder, with a Standard-tree between each Dwarf: this will be found a reasonable Distance, when we consider, that Cherry-trees will extend themselves as far as Apricots, and many other Sorts of Fruit.

In pruning these Sorts of Fruits, you should never shorten their Shoots; for the most part of them produce their Fruit-buds at their extreme Part, which, when shortened, are cut off: their Branches should be therefore train'd in at full Length horizontally; observing in *May*, where there is a Vacancy in the Wall, to stop some strong adjoining Branches, which will occasion its putting out two or more Shoots; by which means, at that Season of the Year, you may always get a Supply of Wood for covering the Wall: and at the same time should all fore-right Shoots be displac'd by the Hand; for if they are suffer'd to grow till Winter, they will not only deprive the bearing Branches of their proper Supply of Nourishment, but when they are cut out, it occasions the Tree to gum in that Part (for Cherries bear the Knife the worst of any Sort of Fruit-trees); but be careful not to rub off the *Fides* or Spurs, which are produced upon the two and three Years old Wood; for it is upon these that the greatest Part of the Fruit are produced; which *Fides* will continue fruitful for many Years. And it is for want of duly observing this Caution, that Cherry-trees are often seen so unfruitful, especially the Morello; which, the more it is cut, the weaker it shoots; and at last, by frequent pruning, I have known a whole Wall of them destroyed; which, if they had been suffer'd to grow without any Prune-

ing, might probably have liv'd many Years, and produc'd large Quantities of Fruit.

Cherry-trees are also planted for Orchards in many Parts of *England*, particularly in *Kent*, where there are large Plantations of these Trees. The usual Distance allow'd for their standing is forty Feet square, at which Space they are less subject to Blight, than when they are closer planted; and the Ground may be till'd between them almost as well as if it were intirely clear, especially while the Trees are young; and the often stirring the Ground, provided you do not disturb their Roots, will greatly help the Trees: but when they are grown so big as to overshadow the Ground, the Drip of their Leaves will suffer very few Things to thrive under them. These Standard-trees should be planted in a Situation defended as much as possible from the strong Westerly Winds, which are very apt to break their tender Branches: this occasions their gumming, and is very prejudicial to them.

The Sorts best approved for an Orchard, are the common Red, or *Kentish* Cherry, the Duke, and Luke-ward; all which are plentiful Bearers. But Orchards of these Trees are now scarcely worth planting, except where Land is very cheap; for the Uncertainty of their Bearing, with the Trouble in gathering the Fruit, together with the small Price it commonly yields, hath occasion'd the destroying many Orchards of this Fruit in *Kent*, within a few Years past.

This Fruit was brought out of *Pontus*, at the time of the *Mithridatic* Victory, by *Lucullus*, in the Year of *Rome* 680. and were brought into *Britain* about 120 Years afterwards, which was *An. Dom.* 55. and

were soon after spread through most Parts of *Euröpe*; it being generally esteem'd for its Earliness, as being one of the first of the Tree-fruit that appears to welcome in the approaching Fruit-season.

This Sort of Fruit hath been by many People grafted upon the Laurel, to which it is a Congener: but what Effect it hath either in the Growth of the Tree, or its Fruit, I have not been yet able to understand; though this Practice is as old as *Pliny*, who says it gives the Fruit a very pleasant Bitterness: but there is little to be depended upon in the Writings of the Antients, with respect to the several Sorts of Trees being grafted upon each other: very few of those which we find mention'd by them to have been frequently practised, will succeed with us. Nor is it owing to the Difference of Climate, as some have supposed, who are inclinable to believe whatever they find related in those Books, especially in the Business of Husbandry and Gardening: but from many repeated Trials, which have been made with the utmost Care, by Persons of the best Skill, it appears that no two Sorts of Trees, which are of different Genus's, will take upon each other: However, the Laurel and the Cherry being of the same Genus, or so near of Kin as to be ranked together by most Botanists, will take upon each other by Grafting. But I have not yet seen any of the Trees so grafted, which have lived to be of any considerable Size; though I have seen many Trees so grafted, which have lived a few Years, but have made very poor Progress; nor do I remember to have seen any Fruit upon the Cherry-trees which were grafted on the Laurels; therefore cannot determine what Ef-

fect this has on the Flavour of the Fruit.

There are some Persons who graft the Duke, and other Sorts of Cherries, upon the Morello Cherry, which is but a weak Shooter, in order to check the luxuriant Growth of the Trees; which will succeed for three or four Years; but they are not of long Duration, nor have I ever seen one Tree so grafted, which had made Shoots above six or eight Inches long; but they were closely covered with Blossoms, so may produce some Fruit in a small Compass: but these are Experiments unfit to be carried into general Use, and only proper to satisfy Curiosity: for is it not much better to allow the Trees a greater Share of room against the Walls, when one Tree, properly managed, will produce more Fruit than twenty of these Trees, or than half that Number, when they are planted too close; though they are grafted upon the Black Cherry, or any other Free-stock?

The early, or *May Cherry*, is the first ripe; so one or two Trees of this Sort may be allowed in a Garden, where there is room for Variety. The next ripe is the *May Duke*; which is a larger Fruit than the other, and is more valuable. After this comes the *Archduke*; which, if permitted to hang upon the Tree till the Fruit is quite ripe, is an excellent Cherry: but few Persons have Patience to let them hang their full time; so rarely have them in Perfection: for these should not be gathered before *Midsummer*; and if they hang a Fortnight longer, they will be better. This is to be understood of the Situation near *London*, where they ripen a Fortnight earlier than in Places forty Miles distant, unless they have a very warm-sheltered

tered Situation. When this Sort is planted against North Walls, the Fruit may be continued till *August*; but these must be protected from the Birds, otherwise they will destroy them.

The *Hertfordshire* Cherry, which is a Sort of Duke Cherry, but a firmer and better-flavoured Fruit, will not ripen earlier than the End of *July*, or the Beginning of *August*; which makes it the more valuable, for coming when the other Cherries are gone. This is not very common in the Nurseries as yet; but as it is one of the best Kinds of Cherries, it is not to be doubted but in a short time it will be as common as any of the other Sorts.

The Morello Cherry, which is generally planted to North Aspects, and the Fruit commonly used for Preserving, yet, if they were planted to a better Aspect, and suffered to hang upon the Trees until they are thoroughly ripe, is a very good Fruit for the Table: therefore two or three of the Trees of this Sort should have Place where there is plenty of Walling, upon a South-west Wall, where they will ripen perfectly by the Middle of *August*; at which time they will be an acceptable Fruit.

The Carnation Cherry is also valuable for coming late in the Season: this is a very firm fleshy Fruit; but is not the best Bearer. This Sort will ripen very well on Espaliers; and, by this means, the Fruit may be continued longer in the Season.

The large *Spanish* Cherry is nearly allied to the Duke Cherry, from which it seems to be only a Variety accidentally obtained: this ripens soon after the common Duke Cherry, and very often passes for it.

The yellow *Spanish* Cherry is of an oval Shape, and of an Amber-

colour: this ripens late, and is a sweet Cherry, but not of a rich Flavour; and being but a middling Bearer, is not often admitted into curious Gardens, unless where Variety is chiefly consulted.

The Corone, or Coroun Cherry, is somewhat like the Black-heart, but a little rounder: this is a very good Bearer, and an excellent Fruit; so should have a Place in every good Fruit-garden: this ripens the Middle of *July*.

The Lukeward ripens soon after the Corone Cherry: this is a good Bearer, and a very good Fruit: it is of a dark Colour, not so black as the Corone: this will do well in Standards.

The Black Cherry is seldom grafted or budded; but is generally sown for Stocks, to graft the other Kinds of Cherries upon: but where Persons are curious to have the best-flavoured of this Sort of Fruit, they should be propagated by grafting from such Trees as produce the best Fruit. This Sort of Cherry is frequently planted in Wilderesses, where it will grow to a large Size; and, at the time of its flowering, will make a Variety; and the Fruit will be Food for the Birds.

The Double-flowering Cherry is also propagated for the Beauty of the Flowers, which are extremely fine, the Flowers being as double and large as a Cinnamon-rose; and these being produced in large Bunches on every Part of the Tree, render it one of the most beautiful Trees of the Spring. Some of the Flowers, which are less double, will often produce some Fruit, which the very double Flowers will not: but this Defect is sufficiently recompens'd in the Beauty of its Flowers. This is propagated by Budding or Grafting on the Black or Wild-cherry Stock;

and the Trees are proper to intermix with the second Growth of flowering Trees.

The wild Northern Cherry is of no Use or Beauty, and is only preserved by the Curious, in Collections of the different Sorts of Trees; as is also the Mahaleb, or perfum'd Cherry; which is a free Shooter, and perhaps may serve for Stocks to improve the other Kinds of Cherries, as growing well in almost any Soil; but there is neither Use nor Beauty in the Flowers or Fruit of it. The strip'd-leav'd Cherry is proper in a Collection of variegated Trees, as adding to the Variety.

CERASUS RACEMOSA. *Vide* Padus.

CERATONIA, The Carob-tree, commonly called, St. John's Bread.

The Characters are;

It hath Male and Female Flowers on distinct Plants: the Male Flowers have an Empalement of one Leaf, which is cut into five Parts: the Flower is of one Leaf, and divided into five small Parts: the Female Flowers consist of one Leaf, having a single Style, which afterward turns to a fleshy hard Pod, including kidney-shap'd Seeds; each being divided by an Ischmus, in the Pod.

We have but one Species of this Plant; which is,

CERATONIA. H. L. The Carob-tree, or St. John's Bread. This is the *Siliqua edulis* of Caspar Baubin; and the *Caroba* of Dale.

This Tree is very common in Spain, and in some Parts of Italy, as also in the Levant; where it grows in the Hedges, and produces a great Quantity of long flat brown-colour'd Pods; which are thick, mealy, and of a sweetish Taste. These Pods are many times eaten by the poorer Sort of Inhabitants, when they have a Scarcity of other Food: but they

are apt to loosen the Belly, and cause Gripings of the Bowels.

These Pods are directed by the College of Physicians to enter some medicinal Preparations; for which Purpose they are often brought from Abroad.

In England the Tree is preserved by such as delight in Exotic Plants, as a Curiosity: the Leaves always continue green; and being different in Shape from most other Plants, afford an agreeable Variety, when intermix'd with Oranges, Myrtles, &c. in the Green-house.

These Plants are propagated from Seeds, which, when brought over fresh in the Pods, will grow very well, if they are sown in the Spring upon a moderate Hot-bed; and when the Plants are come up, they should be carefully transplanted, each into a separate small Pot fill'd with light rich Earth, and plunged into another moderate Hot-bed; observing to water and shade them until they have taken Root; after which you must let them have Air in proportion to the Heat of the Weather. In June you must inure them to the open Air by degrees, and in July they should be remov'd out of the Hot-bed, and placed in a warm Situation, where they may remain until the Beginning of October, when they should be removed into the Green-house, placing them where they may have free Air in mild Weather: for they are pretty hardy, and require only to be shelter'd from hard Frosts.

When the Plants have remained in the Pots three or four Years, and have gotten Strength, some of them may be turned out of the Pots in the Spring, and planted into the full Ground, in a warm Situation, where they will endure the Cold of our ordinary Winters very well, but must have

have some Shelter in very hard Weather.

I have not as yet seen any of these Trees produce Flowers; but from some which have been planted some time against Walls, it is probable there may be Flowers and Fruit in a few Years; though it cannot be expected, that the Fruit will ever ripen in this Country.

CERCIS, The Judas-tree.

The Characters are;

It hath a papilionaceous Flower, whose Wings are placed above the Standard: the Keel is composed of two Petals: the Pointal, which rises in the Centre of the Flower-cup, and is encompassed with the Stamina, afterward becomes a long flat Pod, containing several kidney-shap'd Seeds: to which may be added, Roundish Leaves growing alternately on the Branches.

The Species are;

1. CERCIS *foliis cordato-orbiculatis glabris*. Lin. Hort. Cliff. The common Judas-tree.

2. CERCIS *foliis cordatis pubescentibus*. Lin. Hort. Cliff. The American Judas-tree, commonly called Red-bud.

3. CERCIS *foliis cordato-acuminatis glabris*. The Carolina Judas-tree with small Flowers.

The first of these Trees is very common in the South Parts of France, Italy, and Spain, from whence it was formerly brought into England, and was long preserved as a Curiosity in Green-houses; but of late Years they have been transplanted into the open Air, where they thrive very well, and produce great Quantities of beautiful Flowers in the Spring, and in favourable Seasons perfect their Seeds extremely well.

There are now many Trees of this Kind in the English Gardens, upwards of twenty Feet high, which have very large Stems and Heads;

and make an agreeable Variety in Plantations of Trees of the same Growth.

This Tree is by the Spaniards and Portuguese, called the Tree of Love: there are two Varieties of this Tree, one with white, and the other with flesh-coloured Flowers.

The second Sort is very common in Virginia, New-England, Canada, and most of the Northern Countries of America, where it is called Red-bud; which Name, I suppose, it received from the beautiful Colour of its Flower-buds, which, when fully expanded, are of a soft purple Colour. These Flowers are produced in large Clusters from the old Wood of the Tree; and being opened before the green Leaves come out, they make a beautiful Appearance, especially when the Trees are old, and productive of Flowers; when, many times, the large Branches of the Tree are intirely covered with these beautiful Flowers, so as to afford as great Pleasure as any Sort of Flowering-tree whatever. These Flowers are commonly gathered in America, and put into Sallads, to which they add a quick poignant agreeable Flavour; and in England they are by some curious Persons used for the same Purpose.

The third Sort was brought from Carolina, where it grows in the Woods in great Plenty. This differs greatly in the Shape of its Leaves from the other two Sorts, and the Flowers are much smaller. At present this is less common in the English Gardens, and will not endure the Cold of our Climate so well, being subject to have the young Shoots destroyed in very hard Winters; and if the Plants are young, sometimes they will die to the Ground.

These Plants may be propagated by sowing their Seed upon a Bed of light

light Earth, towards the Latter-end of *March*, or the Beginning of *April* (and if you put a little hot Dung under the Bed, it will greatly facilitate the Growth of the Seeds): when your Seeds are sown, you should sift the Earth over them about half an Inch thick; and, if the Season prove wet, it will be proper to cover the Bed with Mats, to preserve it from great Rains, which will burst the Seeds, and cause them to rot: these Seeds will often remain till the Spring following before they come up; so the Ground must not be disturbed till you are convinced that the Plants are all come up; for some few may rise the first Year, and a greater Number the second.

When the Plants are come up, they should be carefully cleared from Weeds, and, in very dry Weather, must be now-and-then refreshed with Water, which will greatly promote their Growth. The Winter following, if the Weather is very cold, it will be proper to shelter the Plants, by covering them either with Mats, or dry Straw, in hard Frosts; but they should constantly be opened in mild Weather, otherwise they will grow mouldy, and decay.

About the Beginning of *April* you should prepare a Spot of good fresh Ground, to transplant these out (for the best Season to remove them is just before they begin to shoot); then you should carefully take up the Plants, being careful not to break their Roots; and plant them in the fresh Ground as soon as possible, because, if their Roots are dried by the Air, it will greatly prejudice them.

The Distance these should be planted must be proportionable to the time they are to remain before they are again transplanted; but commonly they are planted two Feet

Row from Row, and a Foot asunder in the Rows, which is full room enough for them to grow two or Years, by which time they should be transplanted where they are designed to remain; for if they are too old when removed, they seldom succeed so well as younger Plants.

The Ground between the Plants should be carefully kept clean from Weeds in Summer, and in the Spring should be well dug to loosen the Earth, that their Roots may better extend themselves every Way: you should also at that Season prune off all strong Side-branches (especially if you intend to train them up for Standard-trees), that their Top-branches may not be checked by their Side-shoots, which often attract the greatest Part of the Nourishment from the Roots; and if their Stems are crooked, you must place a strong Stake down by the Side of each Plant, and fasten the Stem to it in several Places, so as to render it strait; which Direction it will soon take as it grows larger, and thereby the Plants will be rendered beautiful.

When they have remained in this Nursery three or four Years, they should be transplanted in the Spring where they are designed to remain, which may be in Wilderness-quarters, among other flowering Trees, observing to place them with Trees of the same Growth, so as they may not be overhung, which is a great Prejudice to most Plants.

CEREFOLIUM. *Vide* Chærefolium.

CEREUS, The Torch-thistle.

The Characters are;

It hath no Leaves: the Stems are thick and succulent; are angular and furrowed, each Angle being armed with sharp Spines, which are produced in Clusters: the Flowers consist

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of many flat Leaves, which expand themselves somewhat like a Marigold: in the Centre of the Flower is produced a great Number of Stamina (or Threads) which appear very specious: the Fruit, which is fleshy, soft, and like to that of the Indian Fig, is produced from the Side of the Plant, without any Footstalk, immediately under the Flower.

The Species are;

1. *CEREUS erectus altissimus* *Syrannamensis*. Par. Bat. The large upright Torch-thistle from Surinam.

2. *CEREUS erectus quadrangulus, costis alarum instar assurgentibus*. Boerb. Ind. The four-cornered upright Torch-thistle.

3. *CEREUS erectus, fructu rubro non spinoso, lanuginosus, lanugine flavescente*. Par. Bat. The upright Torch-thistle, with yellow Down, and red Fruit without Spines.

4. *CEREUS erectus crassissimus maxime angulosus, spinis albis pluribus longissimis, lanugine flava*. Boerb. Ind. The largest upright Torch-thistle, with large Angles, and white Spines, having a yellow Down on the Top.

5. *CEREUS erectus gracilis spinosissimus, spinis flavis polygonis, lanugine alba pallente*. Boerb. Ind. The lesser upright Torch-thistle, with many Angles, and yellow Spines, with a white Down on the Top.

6. *CEREUS erectus gracilior spinosissimus, spinis albis, polygonus*. Boerb. Ind. The lesser upright Torch-thistle, with white Spines.

7. *CEREUS altissimus gracilior, fructu extus luteo, intus nigro, seminibus nigris pleno*. Sloan. Cat. The lesser upright Torch-thistle, with Fruit on the Outside yellow, and white within, and full of black Seeds.

8. *CEREUS maximus, fructu spinoso rubro*. Par. Bat. The great-

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est Torch-thistle, with red prickly Fruit.

9. *CEREUS scandens minor trigonus articulatus, fructu suavissimo*. Par. Bat. The lesser triangular creeping jointed Torch-thistle, with the sweetest Fruit; commonly called in Barbados, The true prickly Pear.

10. *CEREUS cristatus erectus, foliis triangularibus, profunde canaliculatis*. Pluk. Phyt. The crested triangular Torch-thistle, with deep Furrows.

11. *CEREUS scandens minor polygonus articulatus*. Par. Bat. The lesser creeping jointed Torch-thistle, with many Angles.

12. *CEREUS minimus articulatus polygonus spinosus*. Boerb. Ind. The least prickly jointed Torch-thistle, with many Angles.

13. *CEREUS scandens minimus polygonus spinosus, spinis mollibus, flore purpureo*. The least climbing Torch-thistle, with soft Spines, and a purple Flower.

14. *CEREUS scolopendriae folio brachiato*. H. Elth. Torch-thistle with a Ceterach-leaf.

The first Sort is the hardiest, as also the most common in England of any of these Sorts, and may be preserved in a good Green-house without artificial Heat, provided the Frost is kept intirely out, and the Plant kept very dry all the Winter; for Wet is the greatest Enemy to these Plants.

The second, third, fourth, fifth, sixth, seventh, and eighth Sorts are somewhat tenderer, and require a little artificial Warmth in very bad Weather; therefore these should be placed in a Stove, which is kept up to a temperate Heat, marked on the Botanic Thermometers; these must also have very little Water in the Winter-season.

The ninth Sort is, by the Inhabitants of Barbados, trained up against their

their Houses, for the sake of its Fruit, which is about the Bigness of a Bergamot Pear, and of a most delicious Flavour. This, with the tenth, eleventh, twelfth, thirteenth, and fourteenth Sorts, are very tender, and require a very warm Stove to preserve them: these should be placed against the Walls of the Stove, into which they will insinuate their Roots, and extend themselves to a great Length; and, with a little Help, in fastening them to the Wall here-and-there, may be led up about the Ceiling of the House, where they will appear very handsome. And the eleventh Sort, when arrived to a sufficient Strength, will produce many exceeding large, beautiful, sweet-scented Flowers: but they are (like all the Flowers of these Kinds) of very short Duration, scarcely continuing full-blown twelve Hours; nor do the same Flowers ever open again, when once closed: they open in the Afternoon, and, before the next Morning, shut up again. These Flowers are as large as the Flowers of a middle-sized Sun-flower: the outer Order of Rays are of a yellow Colour; the inner are of a pure White; and, in the Centre of the Flower, there are a great Number of long declined *Stamina*: so that when the Flower is fully expanded, it makes a most noble Appearance; and its Scent is so great, as to perfume the whole Air of the Stove: but, before Morning, these Flowers will be quite withered, and hang down: nor could I ever preserve one of these longer, by cutting them from the Plant while they were in Beauty. This Sort hath not produced any Fruit in *Europe*.

The tenth Sort produces a Flower little inferior to the former, as I have been informed by Persons who have seen them; but I never had

the Fortune to have any of these Plants which have been under my Care flower: nor have I heard of more than two Gardens where they have as yet flowered in *England*: the first of them was many Years since, in the Royal Gardens at *Hampton-court*, where there was a curious Collection of Exotic Plants kept in good Order in those Gardens, which have since been greatly neglected: the other was produc'd in the Gardens of the Most Honourable the Marquis of *Rockingham*, at *Wentworth-hall* in *Yorkshire*. These are the only Gardens in this Country where I have heard of this Sort having produced Flowers; although there are many of these Plants in several Gardens, which are of a considerable Age, and extend their Branches to a very great Distance.

The ninth Sort has never produced any Flowers as yet in *England*; nor have we any good Figure of the Flower in any of the Botanic Books: but I have been informed, by some curious Persons who have resided in *America*, that the Flowers are not near so beautiful as those of the tenth and eleventh; but the Fruit is greatly esteemed by all the Inhabitants.

The thirteenth Sort produces a greater Number of Flowers than either of the other: these are of a fine Pink-colour both within and without; and, contrary to all the other Sorts, keep open three or four Days, provided the Weather is not too hot, or the Stove kept too warm. During the Continuance of these Flowers, they make a fine Appearance in the House. This Sort has very slender trailing Branches, which require to be supported; but these do not extend so far as those of the other Sort, nor are their Branches jointed as those are; so they cannot be trained so far against the Walls

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of the Hot-house: but as it produces such beautiful Flowers, and in so great Plenty, it may be placed among the first Class of Exotic Plants. This Plant has produced Fruit in the Garden at *Chelsea*; but it has not as yet ripened.

The fourteenth Sort is now become pretty common in the *English* Gardens, where it annually produces Flowers from the Edges of the Branches, and very frequently ripens its Fruit also. The Flowers of this Kind are not large, but in Shape like those of the *Indian Fig*; and the Fruit is also in Shape like the Fruit of that, but longer, and more pointed. This is of a fine Purple-colour without, and full of small black Seeds, which are lodged in the Pulp.

The seventh Sort produces Flowers every Year; and some of the Fruit have ripened in the *Chelsea* Garden. These were in Size and Shape like a Bergamot-pear, but had very little Flavour. This is the only upright Sort that flowers freely in *England*; for altho' the first Sort will frequently produce Flowers, yet it does not flower so constantly as this seventh, of which there are no very tall Plants in the Gardens; whereas there are great Numbers of the first upwards of fifteen Feet high, and some more than twenty: but when they arrive to this Size, the Plants are very troublesome to shift, and few Stoves are built high enough to contain them; so that they are frequently laid down on one Side in Winter, where Persons have not the Conveniency for them to stand erect.

These are all propagated by Cuttings; so that if you intend to increase the Number of them, you must cut off their Stems at what Length you please: these should be

laid in a dry Place to heal, at least ten Days or a Fortnight before they are planted; but if they lie three Weeks, it is much the better, and they will be in less Danger, especially those Sorts which are the most succulent.

These Cuttings should be planted in Pots filled with light sandy Earth, with a Mixture of Lime-rubbish, laying some Stones in the Bottom of the Pots to drain off the Moisture; then place the Pots into a gentle Hot-bed of Tanners Bark, to facilitate their rooting, giving them once a Week a gentle Watering.

The best Season for this Work is in *June* or *July*, that they may have time to root before Winter: towards the middle of *August* you must begin to give them Air by degrees, to harden them against Winter; but they should not be wholly exposed to the open Air or Sun: at the End of *September* they must be removed into the Stove where they are to abide the Winter; during which Season you must be very careful not to let them have much Water: and always observe to place the young Plants, for the first Winter, in a little warmer Situation than the older Plants, as being somewhat tenderer.

These Plants should always have a dry Situation in Winter; for as they imbibe the greatest Part of their Nourishment from the circumambient Air; so if this be too replete with moist Particles, it will occasion their rotting; nor should any of them be exposed abroad, not even in the midst of Summer; for great Rains, which often happen at that Season, are very injurious to them: the first eight Sorts should be therefore placed so as to enjoy a free Air in the Summer, but, at the same time, screened from Rains, and great Dews;

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Dews: it will therefore be much the better Method to set them in an open Glass-stove, where the Windows may be set open in good Weather, and shut in cold or wet. The other four Sorts must not be exposed too much to the open Air, even in the hottest Season, especially if you design to have them flower; and in Winter they should be kept very warm, and have no Water given them.

When you have once cut off the Tops of any of these Plants, in order to increase them, the lower Parts will put forth fresh Shoots from their Angles, which, when grown to be eight or nine Inches long, may also be taken off to make fresh Plants; and, by this means, the old Plants will continually afford a Supply; so that you never need cut off above one Plant of a Sort, which you should preserve for a Breeder.

These Plants being succulent, they will bear to be a long time out of the Ground; therefore, whoever hath a mind to get any of them from the *West-Indies*, need give no other Instructions to their Friends, but to cut them off, and let them lie two or three Days to dry; then put them up in a Box with dry Hay or Straw, to keep them from wounding each other with their Spines; and if they are two or three Months on their Passage, they will keep very well, provided no Wet get to them.

CERINTHE, Honey-wort.

The Characters are;

It hath glaucous deep-green Leaves, which are, for the most part, beset with Prickles: the Flowers are cylindrical, consisting of one Leaf, in Shape like those of Comfrey, and are pendulous: each Flower is succeeded by two oblong naked Seeds.

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The Species are;

1. CERINTHE *quorundam major, versicolore flore.* J. B. The larger Honey-wort, with party-colour'd Flowers.

2. CERINTHE *quorundam major, spinoso folio, flavo flore.* J. B. The larger Honey-wort, with prickly Leaves, and yellow Flowers.

3. CERINTHE *quorundam major, flore ex rubro purpurascete.* J. B. The larger Honey-wort, with redish purple Flowers.

4. CERINTHE *quorundam minor, flavo flore.* J. B. The lesser Honey-wort, with yellow Flowers.

5. CERINTHE *folio non maculato viridi.* C. B. Honey-wort with deep-green Leaves without Spots.

6. CERINTHE *flore versicolore ex albo & rubro.* Boerb. Ind. Honey-wort with red and white party-colour'd Flowers.

7. CERINTHE *flore versicolore, ex albo & purpureo.* Boerb. Ind. Honey-wort with purple and white party-colour'd Flowers.

The several Varieties of this Plant are propagated by Seeds, which should be sown soon after they are ripe; for, if they are kept till Spring, the growing Quality of them is often lost: the Plants are hardy, and if the Seeds are sown in a warm Situation, they will endure the Winter's Cold very well without Shelter: these autumnal Plants also are much surer to produce ripe Seeds than those which were sown in the Spring, which are generally late in the Season before they flower; and consequently, if the Autumn should not prove very warm, their Seeds would not be perfected.

These Plants are pretty Varieties for large Borders in Gardens, where, if they are suffered to drop their Seeds, the Plants will arise without any farther Care; so that when a Person

Person is once furnished with the several Varieties, he need be at no more Trouble than to allow each of them a respective Place, where it may remain, and sow itself: and, with this Culture, there is a greater Certainty of preserving the Sorts than in any other Management; nor will they perhaps be intirely lost in this way, if it should happen that the Season should prevent its maturing the Seed, as it sometimes proves; for when great Quantities of the Seeds have scattered upon the Ground, some of them will be buried so deep, in stirring the Earth, as not to grow the first Year; which, upon being turned up to the Air, the succeeding Year, will come up as well as new Seeds.

CESTRUM, Bastard Jasmine.

The Characters are;

The Empalement of the Flower is of one Leaf, having a taper Tube, and is cut into five Parts at the Brim: the Flower is funnel-shaped, having a long narrow cylindrical Tube, and spread open at the Top, and cut into five equal Parts: in the Centre of the Flower is situated an oval Germen, attended by five Stamina: the Germen afterward becomes an oval Berry, containing one Seed of the same Form.

The Species are;

1. *CESTRUM floribus pedunculatis.* Lin. Hort. Cliff. Bastard Jasmine, called in the *West-Indies* Poison-berry.

2. *CESTRUM floribus sessilibus.* Lin. Hort. Cliff. Bastard Jasmine, with Flowers growing close to the Branches.

3. *CESTRUM foliis ovatis, flore umbellato.* Bastard Jasmine, with large oval Leaves, and Flowers growing in Umbels.

These Plants have been by some Botanists ranged with the Jasmine,

and by others they were made of a distinct Genus, under the Title of *Jasminoides*, which Name Dr. *Linnaeus* has changed to *Cestrum*.

The first Sort is very common in the Island of *Jamaica*, where the Inhabitants give it the Name of Poison-berries, from the Quality of its Fruit, which is poisonous: this never grows above eight or ten Feet high: the Flowers come out at the Footstalks of the Leaves, which are of a greenish-yellow Colour, and have a very strong Scent: this Shrub is also very common in the *Spanish West-Indies*, where the Inhabitants give it the Name of *Dama da Dio*, or Lady of the Day, from its Flowers appearing open, and having a strong Scent in the Day, but fall away at Night. The second Sort they call *Dama da Noche*, i. e. Lady of the Night, when these Flowers open, and smell very sweet.

All these Sorts are Natives of the warm Parts of *America*; therefore will not live thro' the Winter in this Country, unless they are placed in a warm Stove: they may be all of them propagated by Cuttings in the Summer-months; but they should be plunged into a Bed of Tanners Bark, and shaded in the Heat of the Day from the Sun, until they have taken Root; and then they maybe afterward planted each into a separate Pot filled with fresh loamy Earth, and should be plunged again into the Hot-bed, until they are established in the Pots; after which they must have a large Share of fresh Air, otherwise they will draw up weak.

These Plants may be exposed abroad in a warm-sheltered Situation, from *Midsummer* until the Middle of *September*; at which time they should be removed into the Stove, and, by exposing these Plants during that time, it will cause them

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to have more Strength; so that they will flower better than if they are constantly kept in the Stove; they will also be more clear from Insects, which are very apt to attack these Plants, especially when they are drawn up weak: and if these Insects, and the Filth which they occasion, are not frequently washed off from their Leaves, the Plants will soon grow very sick, and make a bad Appearance.

When these Plants are placed in the Bark-bed during the Winter-season, they will thrive, and produce Plenty of Flowers, but otherwise rarely produce any in this Country; nor will their Flowers be near so large or beautiful: if these are kept in a Stove whose Heat is not less than the temperate Point in Winter, they will thrive better than in a greater Warmth.

These Plants usually grow about seven or eight Feet high, with many Stems from the Root; so cannot be trained to have but one Stem.

The other Species, which were formerly included in this Genus, are referred to the Genus *Lycium*.

CETERACH. *Vide* Asplenium.

CHÆROPHYLLUM, Chervil.

The Characters are;

It is an umbelliferous Plant, whose Leaves are divided into many Segments: the Petals of the Flower are bifid, and heart-shaped; and each Flower is succeeded by two long Seeds, which are not furrowed.

The Species are;

1. CHÆROPHYLLUM *sativum*. C. B. Garden or manured Chervil.

2. CHÆROPHYLLUM *sylvestre perenne, cicutæ folio*. Tourn. Wild perennial Chervil, or Cow-weed.

The first of these Species is cultivated in the Kitchen-garden for Salads, &c. The Seeds of this Plant

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should be sown in Autumn, soon after it is ripe, or very early in the Spring, otherwise it very often miscarries; and as the Plant is annual, if it have a cool shady Spot of Ground allotted for it, and be suffered to sow itself, it will thrive better than when cultivated by Art.

The second Sort grows wild upon moist dry Banks and Hedge-sides near London.

CHAMÆCERASUS. *Vide* Lonicera.

CHAMÆCISTUS. *Vide* Helianthemum.

CHAMÆCLEMA. *Vide* Glechoma.

CHAMÆCYPARISSUS. *Vide* Santolina.

CHAMÆDAPHNE. *Vide* Ruscus.

CHAMÆDRYS, Germander.

The Characters are;

It hath small thick Leaves, which are lacinated somewhat like those of the Oak: the Flowers, which are produced at the Wings of the Leaves, are labiated: the Stamina or Thread supply the Place of the Crest, or Upper-lip: the Beard, or Lower-lip of the Flower, is divided into five Parts: the middle Segment, which is largest, is hollow like a Spoon, and sometimes divided into two Parts: the Cup of the Flower is fistulous.

The Species are;

1. CHAMÆDRYS *major repens*. C. B. The greater creeping Germander.

2. CHAMÆDRYS *minor repens*. C. B. The smaller creeping Germander.

3. CHAMÆDRYS *laciniatis foliis*. Lob. Germander with cut Leaves.

4. CHAMÆDRYS *Hispanica tenuifolia multiflora*. H. R. Par. Narrow-leav'd Spanish Germander, with many Flowers.

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5. CHAMÆDRYS *Alpina frutescens, folio splendente. Tourn.* Shrubby Germander of the *Alps*, with shining Leaves.

6. CHAMÆDRYS *fruticosa Cretica, purpureo flore. Tourn.* Shrubby Germander of *Crete*, with a purple Flower.

7. CHAMÆDRYS *multifida spinosa odorata. Vir. Lufit.* Prickly sweet-smelling Germander, with Leaves divided into many Parts.

These Plants are seldom cultivated in Gardens: the first Sort grows wild in many Parts of *England*, where it is gathered, and brought to the Markets for medicinal Uses: the second Sort grows wild in the Southern Parts of *France*; from whence several Botanic Gardens have been supplied with the Seeds: the fourth Sort is very common in *Spain* and *Portugal*: these are all of them very humble Plants, their Branches always trailing upon the Ground; therefore never rise more than a Foot high; but the fifth Sort grows shrubby, and often rises to three Feet high; and being an Evergreen, may be allowed a Place in large Gardens, for the sake of Variety: this is a Native of the *Alps*; so will endure the severest Cold in the open Air, and will produce plenty of Seeds; by which the Plant may be readily propagated, if sown in the Spring, in a Bed of common Earth, in an open Situation.

The sixth and seventh Sorts should have the Shelter of a Wall, Hedge, or Pale, to protect them from the North and East Winds, which are sometimes destructive to them, if too much exposed thereto. These Sorts may also be increased, by planting their Cuttings in a shady Border, in *May* or *June*; which, if supplied with Water in dry Weather, will take Root very well in about

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three Months time, when they may be removed with Safety.

The third Sort is a biennial Plant, rarely abiding after it hath perfected its Seeds: this should be sown in a Border which is screened from the cold Winds; and when the Plants are come up, they may be transplanted to a greater Distance in the same well-sheltered Border; and the Spring following the Plants will flower, and soon after will perfect their Seeds; which, if permitted to scatter upon the Ground, will arise of themselves, without any more Trouble, and need only to be transplanted where the Plants are intended to remain.

The first and second Sorts are very hardy, and propagate themselves very fast by their creeping Roots, which, if suffered to spread, as they are naturally inclin'd, will, in a short time, cover a large Spot of Ground; therefore they should be planted at a good Distance, and removed every Spring or Autumn, lest they over-run the Ground.

The second Sort is prescribed in the last *College Dispensatory*: but the first is our common Sort in *England*, which is what the Markets are supplied withal; the second being to be found only in curious Gardens of Plants.

CHAMÆLÆA. Vide Cneorum.

CHAMÆMELUM, Camomile.

The Characters are;

It hath a fibrose Root: the Cup of the Flower is squamose, which expands, and appears like many Leaves: the Flowers are, for the most part, radiated: the Petals of the Flower are white, and the Disk yellow: the Leaves are cut into fine Segments.

The Species are;

1. CHAMÆMELUM *odoratissimum repens, flore simplici. J. B.* Sweet-scented creeping Camomile.

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2. *CHAMÆMELUM repens odoratissimum perenne, flore multiplici.* J. B. Sweet-scented creeping Camomile, with double Flowers.

3. *CHAMÆMELUM vulgare amarum.* J. B. Common bitter Camomile.

4. *CHAMÆMELUM fætidum.* C. B. Stinking Camomile, or May-weed.

5. *CHAMÆMELUM majus, folio tenuissimo, caule rubente.* H. R. Par. Larger Camomile, with narrow-cut Leaves, and redish Stalks.

6. *CHAMÆMELUM lencanthemum Hispanicum, magno flore.* C. B. Spanish Camomile, with large Flowers.

7. *CHAMÆMELUM Chium vernum, folio crassiori, flore magno.* T. Cor. Spring thick-leav'd Camomile of Chio, with large Flowers.

8. *CHAMÆMELUM Orientale inæcanum, folio millefolii.* T. Cor. Eastern Camomile, with hoary narrow Leaves.

9. *CHAMÆMELUM Lusitanicum latifolium, sive coronopi folio.* Breyn. Broad-leav'd Portugal Camomile.

10. *CHAMÆMELUM Æthiopicum lanuginosum, flore albo.* Breyn. Ethiopian woolly Camomile, with a white Flower.

11. *CHAMÆMELUM Æthiopicum lanuginosum, flore lateo.* Boerh. Ind. Ethiopian woolly Camomile, with a yellow Flower.

12. *CHAMÆMELUM Orientale, foliis pinnatis.* T. Cor. Eastern Camomile, with pennated Leaves.

There are several other Varieties of this Plant, which are kept in curious Botanic Gardens; but these here mentioned are the principal Sorts we have at present in the *English* Gardens.

The first Sort is the common Camomile of the Shops, and is the only Kind which is propagated for Use in the *English* Gardens: this was formerly in great Request for make-

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ing of green Walks; but as it is very subject to rot in Winter, especially when grown pretty thick, whereby the Walks planted there, with will have many bare Patches, and are thereby rendered very unsightly, it hath occasioned the Disuse of it for those Purposes of later Years; but it is still cultivated in Physic-gardens for medicinal Use, tho' it grows wild in great Plenty on most of the large Commons or Heaths near *London*.

The second Sort is preserved in Gardens for the Variety of its very double Flowers; but is not so good for medicinal Uses as the common, tho' at present it is more generally used.

There is also another Variety of this Plant, which is sometimes found wild amongst the common, that hath naked Flowers, being intirely destitute of Petals, or Flower-leaves.

These three Sorts are easily propagated in a Garden, by parting their Roots, and planting them about eight or ten Inches distant every Way; for they are great Spreaders, especially when planted in a good Soil. The best Season for this Work is in *March*: they all thrive best in a poor Soil.

The third, fourth, and fifth Sorts are common Plants in most Parts of *England*; and are rarely preserved in Gardens, unless it be in public Botanic Gardens, to increase the Number of Varieties.

The other Sorts, tho' Strangers in our Climate, yet will do very well, if sown in the Spring of the Year in an open Bed of fresh Earth, except the tenth and eleventh Sorts, which are somewhat tenderer, and should be first rais'd in a moderate Hot-bed, and may afterwards be transplanted abroad, where they will flower, and ripen their Seeds very well: they

they are most of them Annuals; therefore should either be sown every Spring, or their Seeds suffered to sow themselves, whereby the Labour may be saved of preserving their Seeds; and the Plants which arise from their Seeds in Autumn, if they stand the Winter, will flower early the succeeding Summer, and perfect their Seeds better than if sown in the Spring.

These Varieties are very proper for all curious Collections of Plants; but are seldom preserved in Gardens for Use or Pleasure.

CHAMÆMESPIIUS. *Vide* Mespilus.

CHAMÆMORUS. *Vide* Rubus.

CHAMÆNERION. *Vide* Epilobium.

CHAMÆPITYS. *Vide* Teucrium.

CHAMÆRIPHES. *Vide* Palma.

CHAMÆRUBUS. *Vide* Rubus.

CHAMÆSYCE. *Vide* Tithymalus.

CHAMÆRHODODENDRON, Sweet Mountain-rose.

The Characters are;

It hath a tubulous Flower, consisting of one Leaf, shaped somewhat like a Funnel; from whose Cup arises the Pointal, fixed like a Nail in the hinder Part of the Flower, which afterward becomes an oblong Fruit, divided into five Cells, in which are contained many very small Seeds.

The Species are;

1. CHAMÆRHODODENDRON *Alpinum glabrum*. Tourn. Smooth Mountain-rose of the Alps.

2. CHAMÆRHODODENDRON *Alpinum villosum*. Tourn. Hairy Mountain-rose of the Alps.

3. CHAMÆRHODODENDRON *Alpinum serpyllifolium*. Tourn. Mountain-rose of the Alps, with a Mother-of thyme-leaf.

4. CHAMÆRHODODENDRON *Indicum, flore amplo coccineo*. Tourn. Indian Mountain-rose, with a large scarlet Flower.

5. CHAMÆRHODODENDRON *Americanum semper-virens, floribus dilute carneis purpureis maculis notatis*. The American Mountain-rose, with ever-green Leaves, and flesh-colour'd Flowers spotted with Purple.

The first, second, and third Sorts grow wild on the Alps, as also upon several Hills in Germany and Austria; but are with great Difficulty preserved in Gardens in this Country. The best Method to cultivate these Plants is, to put them into Pots filled with fresh loamy Earth, and place them in a shady Situation, observing to water them constantly in dry Weather, otherwise they will soon decay; for in their natural Situation they have frequent Rains, and very great Dews, whereby the Ground is kept continually moist; so that when these Plants are transplanted into a drier Situation, if they are not duly watered, they are soon destroyed.

They may be propagated by laying down their tender Branches early in Spring, which, if duly watered, will take Root by the following Spring; when they should be separated from the old Plants, and transplanted, either into Pots filled with fresh loamy Earth, or into a shady moist Border; where, if they are duly watered in dry Weather, they will thrive, and produce their Flowers; but they will not perfect their Seeds in this Country.

The fourth Sort is very tender; therefore must be placed in a warm Stove in Winter, otherwise it will not live in this Country. This Kind may be propagated by laying down the tender Branches, which will take Root in one Year, provided they

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are duly watered: then they may be taken off from the old Plant, and each planted into a separate small Pot filled with fresh loamy Earth; and, if the Pots are placed in a moderate Hot-bed of Tanners Bark, and the Glasses shaded in the Heat of the Day, until the Plants have taken new Root, it will be a very safe Method to preserve them, and will greatly promote their Growth.

The second Year after these Layers are taken from the old Plants, they will produce Flowers, and continue so to do every Year after. These Plants may be placed abroad in Summer; but they must not be taken out of the Stove till the Middle of June, and must be placed where they may be well defended from strong Winds; otherwise they will lose their Leaves in Summer, which will prevent their Flowering: nor should they remain abroad too late in Autumn; for if they remain so late as to be pinch'd by morning Frosts, they seldom survive it; because, when the upper Leaves, and tender Shoots, are nipped, the Shoots will quickly decay, and the whole Plant be soon destroyed. In Summer these Plants require to be plentifully watered; but in Winter they should not have too large Quantities, but must be frequently refreshed.

The first Sort is a Native of the Northern Parts of *America*, and at present is very rare in *Europe*: this Plant has large Leaves like those of the Laurel, and produces its Flowers in Clusters at the End of the Shoots, which make a fine Appearance during their Continuance; and the Leaves continuing all the Year, renders it one of the finest Shrubs of the Country.

The Seeds of this Plant rarely grow when brought over: so the best Me-

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thod is to procure the Plants from *America*; which, if planted in a moist Soil, and a sheltered Situation, will live abroad in the full Ground. There are some Plants of this Kind now growing in the Gardens of his Grace the Duke of *Argyll*, at *Whitton*, near *Hounslow*.

CHELIDONIUM MINUS. *Vide* Ranunculus.

CHELIDONIUM MAJUS, The greater Celandine.

The Characters are;

The Cup of the Flower consists of two Leaves, which soon fall away: the Flower hath four Leaves, which are expanded in form of a Cross: the Ovary in the Base of the Flower is surrounded by many Stamina, or Threads: the Flowers soon fall away, and are succeeded by many bi-valve Pods, which contain many small round Seeds: and the whole Plant is full of a yellow hot Juice.

The Species are;

1. CHELIDONIUM *majus vulgare*. C. B. Common great Celandine.

2. CHELIDONIUM *majus, foliis quernis, flore laciniato*. Mor. Hist. Greater Celandine, with Leaves like the Oak, and lacinated Flowers.

3. CHELIDONIUM *majus, foliis & flore minutissime laciniatis*. H. R. Par. Greater Celandine, with fine-cut Leaves and Flowers.

The first Sort grows wild upon dry Banks and Walls in most Parts of *England*, and is brought to the Markets by the Herb-women, who gather it for medicinal Use.

The second Sort hath been found wild in some particular Places in *England*, particularly at *Wimbledon* in *Surry*: this Sort constantly retains its Difference when cultivated in a Garden, and sown yearly; the Seeds of this never producing any Plants of the common Sort among them.

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The third Sort is only to be found in curious Botanic Gardens, where it is preserved for its Variety.

These Varieties may all be propagated by sowing their Seeds soon after they are ripe, in any Corner of the Garden; where, if suffered to cast their Seeds, they will always furnish a plentiful Stock of young Plants, without any farther Trouble.

CHELONE.

The Characters are;

It hath a short green squamose Calyx: the Flower consists of one Leaf, which is divided into two Lips: the Galea, or Crest, is somewhat like the Head of a Tortoise: the Beard, or lower Lip, is extended beyond the Crest, and is bifid: the Flower is succeeded by a Fruit which is in Shape like that of the Fox-glove, and is divided into two Cells, in which are contained many flat Seeds, that are furbelow'd on the Edges.

The Species are;

1. CHELONE *Acadiensis*, flore albo. Tourn. White-flowering Chelone of Acadia.

2. CHELONE *floribus speciosis pulcherrimis colore rosæ Damascenæ*. Clayt. F. V. Chelone with specious Flowers of the Colour of the Damask Rose.

Tho' by the Title of these Plants they are supposed Natives of Acadia only, yet they have been brought from divers Parts of America; and 'tis very probable may be found in most Parts of North America, as Virginia, Maryland, New-England, &c. From the two last-mentioned Places several Plants have been sent to England by some curious Persons of those Countries.

These Plants are very hardy, enduring our severest Cold in the open Ground; and are propagated by parting the Roots in the Spring, which increase very fast under the

Surface of the Earth; therefore they should not be planted among other curious Plants or Flowers, lest, by their spreading Roots, they should overbear and destroy them. They die to the Surface every Winter, and arise again the succeeding Spring, producing their Flowers in August, and ripen their Seeds in October; of which, tho' they seem to be perfectly good almost every Year, yet I could never procure one single Plant from all the Seeds I have yet sown, either of my own saving, or any other English saved Seeds.

The first Sort has been long in the European Gardens; but the second is more rare at present, being in few Gardens. This was sent to England by Mr. Clayton, a very curious Botanist, from Virginia, who discover'd it in some of the remote Parts of that Country: it is equally hardy with the first Sort, and may be propagated by parting their Roots in March.

CENOPODIO-MORUS. Vide Blitum.

CENOPodium, Goose foot, or Wild Orach.

The Characters are;

The Seeds are single and globose in some Species, but in others they are compressed: the Cup of the Flower is quinquesfid, or divided into five Parts: the Leaves grow alternately upon the Stalks between the Seeds.

The Species are;

1. CENOPodium *fætidum*. Tourn. Stinking Orach.

2. CENOPodium *lini folio villosa*. Tourn. Flax-leav'd Orach, commonly called Summer-cypress, or Belvedere.

3. CENOPodium *ambrosioides, folio sinuato*. Tourn. Cut-leav'd Orach, commonly called Oak of Jerusalem.

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4. *CHENOPODIUM ambrosioides*, *Mexicanum*. Tourn. *Mexican Orach*, commonly called Oak of *Cappadocia*.

5. *CHENOPODIUM ambrosioides Mexicanum fruticosum*. Boerb. Ind. Shrubby *Mexican Orach*.

The first of these Sorts is very common upon Dunghils, and in Gardens, in most Parts of *England*: it is seldom cultivated, except in some Physic-gardens; for the Markets in *London* are supplied with it by the Herb-women, who gather it wild.

The second Sort is sometimes cultivated in Gardens; 'tis a beautiful Plant, which is naturally disposed to grow very close and thick, and in as regular a Pyramid as if cut by Art. The Leaves are of a pleasant Green: and, were it not for that, it hath so much of the Appearance of a Cypress-tree, that at some Distance it might be taken for the same, by good Judges: the Seeds should be sown in Autumn; and, in the Spring, when the Plants are come up, they may be planted into Pots of good Earth, and kept supplied with Water in dry Weather: these Pots may be intermixed with other Plants to adorn Court-yards, &c. where they will appear very handsome, until their Seeds begin to swell, and grow heavy, which weigh down and displace the Branches; at which time the Pots should be removed to some abject Part of the Garden, to maturate their Seeds; which, if permitted to fall upon the Ground, will come up the next Spring; so that you need be at no more Trouble in propagating these Plants, but only to transplant them where you intend they should grow.

The third Sort was formerly used in Medicine: but altho' it still continues in the Catalogue of Simples

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annexed to the *London Dispensatory* yet it is very seldom used at present. This Plant may be propagated by sowing the Seeds in an open Border of good Earth in the Spring, where it will perfect its Seeds in Autumn; which, if permitted to shed upon the Ground, will arise as the former.

The fourth and fifth Sorts were brought from *America*, where the Seeds are called Worm-feed; I suppose from some Quality contained in it, which destroys Worms in the Body.

The fourth Sort is propagated by sowing the Seeds in the Spring, as the before-mentioned Sorts, and will perfect its Seeds in Autumn; after which, the Plant decays to the Ground: but if the Root be preserved in Shelter under an Hot-bed-frame, it will put forth again the succeeding Spring; and in moderate Winters this Plant will live in the open Air.

The fifth Sort grows to be a small Shrub, arising sometimes to the Height of five or six Feet, and becomes woody. This may be propagated by planting Cuttings in a shady Border during any of the Summer-months; which should be shaded until they have taken Root, and that will be in a Month's time, or less: then they should be planted into Pots, that they may be sheltered in the Winter under a Frame, where they will abide the Cold very well, being somewhat hardy, tho' they will not stand in the open Air. There is no great Beauty in these two Plants; but they are preserved in some Gardens, for the strong Smell of their Leaves.

CHERRY-LAUREL. *Vide* *Padus*.

CHERRY-TREE. *Vide* *Cerasus*.

CHERVIL.

CHERVIL. *Vide* Chærefolium.

CHESTNUT. *Vide* Castanea.

CHIONANTHUS, The Fringe, or Snow-drop-tree. This Name was given to this Plant by Dr. *Linnaeus*, from the Whiteness of its Flowers: the Inhabitants of *America*, where this Tree is a Native, call it Snow-drop-tree, for the same Reason: and the *Dutch* call it Sneebaum, *i. e.* Snow-tree, on the same Account.

The Characters are;

The Empalement of the Flower is deeply cut into four Segments: the Flower is of one Leaf, which is cut to the Bottom into four Parts: these grow in Bunches: in the Centre of the Flower is situated the Germen, attended by two Stamina: the Germen afterward turns to a Berry having one Seed.

We have but one Species of this Plant; *viz.*

CHIONANTHUS. *Lin. Hort. Cliff.*
The Snow-drop or Fringe-tree.

This Shrub is common in *South Carolina*, where it grows by the Side of Rivulets, and seldom is more than ten Feet high: the Leaves are as large as those of the Laurel, but are of a much thinner Substance: the Flowers come out in *May*, hanging in long Bunches, and are of a pure White, from whence the Inhabitants call it Snow-drop-tree; and, from the Flowers being cut into narrow Segments, they give it the Name of Fringe-tree: after the Flowers have fallen away, the Fruit appears, which becomes a black Berry, about the Size of Sloes, having one hard Seed in each.

This Tree is now more common in the curious Gardens in *England*, than it was a few Years since; there having been many young Plants raised from the Seeds which have been brought from *America* lately:

there have also been some Plants propagated by Layers, tho' there is great Uncertainty of their taking Root: and they seldom get Root in less than two Years; nor will they ever take Root, unless they are well supplied with Water in dry Weather.

The best Way to obtain good Plants is from the Seeds, which must be procured from *America*, for they never have produced any Fruit in this Country: the Seeds should be sown in Pots or Tubs of fresh loamy Earth soon after they arrive, and should be placed to the Sun, where they may remain till the Beginning of *April*, when they must be removed to a Situation exposed only to the morning Sun: in dry Weather the Pots must be watered, and kept clean from Weeds: these Seeds lie in the Ground a whole Year before the Plants will come up: so the following Winter they should be removed to a warm Situation, exposed to the South Sun, and screened from the cold Winds; and if the Pots are plunged into a moderate Hot-bed the Beginning of *March*, it will bring up the Plants much sooner than they will rise in the open Air; by which means they will get more Strength the first Summer, and be better able to resist the Cold of the next Winter: while these Plants are very young, they will be in Danger of suffering by severe Frost; but, when they have obtained Strength, they will resist the greatest Cold of our Climate in the open Air.

The best time to remove the Seedling-plants, is toward the End of *March*, when they may be transplanted into Nursery-beds, or each into a separate small Pot: the latter is the best Method, because they may be removed into Shelter the next Winter; and they may be

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turned out of the Pots the following Spring, and planted where they are to remain, which should be in a moist Soil, otherwise they will not thrive, or produce Flowers.

CHONDRILLA, Gum-succory.

The *Characters* are;

It hath a cylindrical Cup to the Flower, which is cut almost to the Bottom, in several Species: the Seeds are oblong and narrow: in other respects it is like the Lettuce.

The *Species* are;

1. **CHONDRILLA** *cærulea altera, eichorei sylvestris folio*. C. B. Blue-flower'd Gum-succory.

2. **CHONDRILLA** *cærulea laciniata latifolia*. C. B. Blue-flower'd Gum-succory, with broad cut Leaves.

3. **CHONDRILLA** *junceæ viscosa arvensis, quæ prima Dioscoridis*. C. B. Clammy Gum-succory, with Shoots like the Rush.

4. **CHONDRILLA** *bieracii folio, annua*. Tourn. Annual Gum-succory, with Hawkweed-leaves.

5. **CHONDRILLA** *viminea*. C. B. P. Gum-succory with slender Branches.

The first Sort is referred to the Genus of *Lactuca* by Dr. *Linnaeus*, who has only retained the fifth Sort under this Title, and supposes the third Sort to be the same with the fifth; but the third is a Plant which creeps at the Root, seldom rising above a Foot and an half high; whereas the other commonly grows three or four Feet high, and does not continue above two or three Years.

The first and second Sorts are only Varieties, which will arise from the same Seeds. The fourth Sort is an annual Plant, which perishes as soon as the Seeds are ripe.

All these Plants are preserved in Botanic Gardens for the sake of Variety; but are rarely permitted to have a Place in any other Gardens,

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being Plants of no great Use or Beauty.

But whoever hath a mind to propagate their several Species, may sow their Seeds in an open Bed of common Earth in the Spring, where they will readily come up, and thrive exceedingly: and their Seeds, being permitted to scatter upon the Ground, will come up, and soon overspread a Garden.

The three first Sorts are abiding Plants, and increase very much by their spreading Roots, which, if not confin'd, will in a short time become very troublesome Weeds in a Garden; as also, if their Seeds are suffered to ripen, having a Down adhering to them, they will be blown all over the Garden, and be full as bad Weeds as Sow-thistles.

CHRISTMAS - FLOWER, or black Hellebore. *Vide Helleborus*.

CHRISTOPHORIANA, Herb-christopher.

The *Characters* are;

The Flower consists of five Leaves, which are placed orbicularly, and expand in form of a Rose; in the Centre of which arises the Ovary, which becomes a soft Fruit or Berry, of an oval Shape, and is filled with Seeds in a double Row, which, for the most part, adhere together.

The *Species* are;

1. **CHRISTOPHORIANA** *vulgaris nostras, racemosa & ramosa*. Mor. Hist. Common Herb-christopher, or Bane-berries.

2. **CHRISTOPHORIANA** *Americana racemosa, baccis rubris*. Mor. Hist. American Herb-christopher, with red Berries.

3. **CHRISTOPHORIANA** *Americana racemosa, baccis rubris, longo pediculo insidentibus*. Sarrac. American Herb-christopher, with red Berries growing on long Footstalks.

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The first of these Sorts is found in divers Places in *Yorkshire, Cumberland, Northumberland*, and other Northern Counties of *England*; but is rarely met with in the Southern Parts, unless where it is preserved in Gardens: this Plant may be propagated by sowing the Seeds, or parting the Roots: it must have a shady moist Situation, where it will thrive very well.

The second and third Sorts are only preserved in curious Gardens of Plants, and are rarely met with in the *English* Gardens; they are very hardy, and will endure our Cold very well, if planted in the open Ground:

These are propagated in the same manner as the former.

CHRYSANTHEMOIDES OSTEOSPERMON. *Vide Osteospermum.*

CHRYSANTHEMUM, Corn-marigold.

The Characters are;

It hath an annual Root: the Cup of the Flower is hemispherical and scaly: the Flowers are radiated; the Rays being, for the most part, of a yellow Colour; and the Seeds are furrowed.

The Species are;

1. **CHRYSANTHEMUM** *flore partim candido, partim luteo.* C. B. White Corn-marigold, or Chrysanthemum.

2. **CHRYSANTHEMUM** *folio maritricaræ, flore albo pleno.* H. C. The double white Chrysanthemum, or Corn-marigold.

3. **CHRYSANTHEMUM** *Creticum luteum.* H. Eyst. The yellow Chrysanthemum, or Corn-marigold.

4. **CHRYSANTHEMUM** *folio maritricaræ, flore luteo pleno.* Boerb. Ind. The double yellow Chrysanthemum, or Corn-marigold.

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5. **CHRYSANTHEMUM** *Creticum, petalis florum fistulosis.* Tourn. The quill-leav'd Chrysanthemum, or Corn-marigold.

The first and second Sorts are Varieties, which arise from the same Seeds, as also the third and fourth Sorts: therefore these four may be deemed as two Sorts; but some modern Botanists reduce them to one; tho', from repeated Trials, I never have found, that the Seeds of the white Sort have produced yellow Flowers, nor the yellow Sort produced the White.

The fifth Sort is accidental, and often has been produced by the white and yellow Sorts; and only differs from them in having their Petals tubulous or hollow, like a Quill: the same frequently happens in the *African* Marigold; but the Seeds of all these degenerate back to the plain-leav'd Sort.

These Plants are all propagated by sowing their Seeds in the Spring upon a gentle Hot-bed, in order to have them early; otherwise they will come up as well, if sown in the open Ground: when the Plants are come up, they should be transplanted into Nursery-beds, or about ten Inches asunder every Way, where they may remain until they shew their Flowers; at which time you may transplant all those which have double Flowers, either into Pots or Borders, to adorn the Pleasure-garden or Court-yard. The single ones may be pull'd up first, and cast away as good for nothing; which will make room for the better taking up the double ones, with a large Ball of Earth to their Roots, otherwise they will not bear removing when so far advanc'd. If these Plants are set in the full Ground, they will grow very large; therefore they should be planted

planted only in very large Borders, and not too near other Flowers, lest, by their overbearing them, they should be destroyed: but they are much handsomer when confin'd in Pots, provided they are constantly watered; for, by this means, their Roots are kept within Compass, and the Plants seldom grow so large, but produce a greater Quantity of Flowers.

In saving the Seeds of these Plants, you should always make choice of the very double Flowers, which will certainly produce a much greater Quantity of double Flowers the next Year, than would the Seeds of single or half-double Flowers; though, if the Seeds are taken from the very best Flowers, they will degenerate, and bring some single Flowers among them: therefore, to avoid this Disappointment, the better Method is, when you have gotten some fine double Kinds of these Plants of both Colours, to take off some Cuttings of each Kind toward the Latter-end of August, or the Beginning of September, and plant them pretty close, in Pots filled with common fresh Earth, setting them in a shady Place, and observing to water them frequently. These Cuttings will, in a Month's time, strike out Roots, and begin to grow; you must therefore remove the Pots into an open Situation, observing, as before, to refresh them with Water (which must now be done gently, that the young Plants may not grow too vigorous before Winter): in this Place they may remain until the Latter-end of October, when you should place the Pots under a common Hot-bed-frame, that they may be screened from severe Frosts, which would destroy them; but observe to take the Glasses off every Day, when the Weather will permit; otherwise the Plants

will draw up, and be very tender, so that upon the least Impression of Cold they will suffer very much; as also by being shut up too close, they would be subject to rot by the damp Air which surrounds them.

In the Spring these Plants may be transplanted out either into separate Pots or Borders, as before directed, where they will flower early; and hereby you will be sure to have the Sorts right, according to the Plants which the Cuttings were taken from.

CHRYSOBALANUS, The American or Black Plum.

The Characters are;

The Empalement of the Flower is of one Leaf, and is cut into four Parts: the Flower is composed of five plain Petals, which expand in form of a Rose: in the Centre arises the Pointal, which after-ward becomes an oval fleshy Fruit, inclosing a Stone of the same Shape, which is very rough and furrowed.

The Species are;

1. **CHRYSOBALANUS** *fructu purpureo. Lin. Hort. Cliff.* The black American Plum.

2. **CHRYSOBALANUS** *fructu ex albo rubescente.* The American Plum, of a whitish-red Colour.

These Trees are very common in the Islands of America, as also in many Parts of New Spain, where there are some other Varieties of the Fruit; but those which are here enumerated are all I have yet seen growing in the English Gardens.

They are very tender Plants; so must be constantly kept in the Bark-bed in the Stove, otherwise they will not thrive here: they are propagated by Seeds, which must be procured from the Countries of their natural Growth; and, if the Stones are put up in a Box of Sand, it will preserve them better than if they are brought over

over dry ; or, if the whole Fruit is put up with Sand between them to keep them from rotting each other, there will be a greater Chance of their growing ; but they should be sent over as soon as possible after they are ripe, otherwise they will not grow. They must also be sown as soon as possible after they arrive, and plunged into an Hot-bed of Tanners Bark, where, if the Fruit is good, the Plants will come up in a Month or five Weeks, especially if they are sown in the Spring or Summer-season ; but if it is in the Autumn or Winter, they may be allowed a longer time to vegetate : when the Plants are fit to remove, they should be each planted carefully into a small Halfpeny Pot filled with a soft loamy Earth, and plunged into the Hot-bed again ; and must be treated in the same manner as is directed for other tender Plants of the same Countries ; observing, when the Plants have shed their Leaves, not to give them too much Water, especially in the Winter-season, lest the Moisture should rot their Roots : in all other respects they may be managed as the Coffee-tree, and should be kept in the same Temperature of Warmth.

Some of these Plants have grown to the Height of five or six Feet in England, and have produced Flowers ; but, excepting one Plant, which ripened one of the Fruit, I have not seen any produced. These Trees are often destitute of Leaves four or five Months, and the Flowers generally precede the Leaves : that Plant which ripened its Fruit in England had no Leaves upon it, when the Fruit was ripe.

In the *West-Indies* these Trees rarely grow above twelve or fourteen Feet high, and are there often bare of Leaves for four or five Months ; and the Flowers are gene-

rally produced before the Leaves appear. The Fruit of these Trees have very little Pulp, only a thin Covering over the Stone, which is very large. This Fruit has an unpleasant sweet Taste, and is reckon'd unwholesome when eaten in any Quantity.

In the Places of its natural Growth, the Inhabitants plant the Cuttings ; which, in a short time, will take Root, and the following Summer produce Fruit. I have also raised these Plants from Cuttings in *England*.

CHRYSOCOMA, Goldylocks.

The Characters are ;

It hath a compound Flower : the Florets are funnel-shap'd, and divided at their Brim into five Parts, and are stretch'd out beyond the Empalement : on the Outside are ranged the Hermaphrodite Flowers, which are tubulose and reflexed at the Top : these are all included in one common Empalement, which is scaly : the Embryo becomes one plain Seed, crowned with a Down.

The Species are ;

1. CHRYSOCOMA *calycibus laxis*. *Lin. Hort. Cliff.* German Goldylocks.

2. CHRYSOCOMA *fruticosa, foliis linearibus, dorso decurrentibus*. *Lin. Hort. Cliff.* African shrubby Goldylocks.

3. CHRYSOCOMA *foliis linearibus subtus pilosis, floribus ante florescentiam reflexis*. *Lin. Hort. Cliff.* Dwarf African Goldylocks, with very narrow Leaves, hairy underneath.

4. CHRYSOCOMA *foliis lanceolato-linearibus alternis integerrimis, floribus corymbosis*. Goldylocks with narrow whole Leaves, and Flowers collected in a Sphere.

These Plants have been ranged, with some others, under the Title of *Coma Aurea* ; which, being a compound

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pound Name, Dr. *Linnaeus* has altered to this of *Chrysocoma*. The other Species, which were formerly included in this Genus, are referr'd to *Santolina*.

The first and fourth Sorts are very hardy Plants, and will thrive in the open Air; so are proper Ornaments for the Borders in large Gardens; especially the fourth Sort, which is apt to spread its Roots; whereby it will incommode the other less hardy Flowers, when planted near them; so that in small Gardens it can scarce deserve a Place, unless the Shoots are taken off from time to time, to keep the Plants in due Compass: but in large Gardens it deserves a Place for the Continuance of its Flowers. This commonly begins flowering in the Middle of *July*, and continue in Flower till *October*: the Stalks of this Plant decay in Winter; but the Roots abide, and shoot out again in the Spring; and it multiplies very fast by its creeping Roots; so that the only Culture it requires, is to reduce the spreading Roots every Winter, to keep the Plants in due Bounds; and to dig round them at the same time, to loosen the Earth.

The first Sort is not so apt to spread at the Root; therefore may be admitted into small Gardens. This grows about two Feet high, bearing many gold-coloured Flowers at the Extremity of the Shoots: it begins flowering the Latter-end of *August*, and continues until the Frost stops its flowering. This Sort may be propagated by parting the Roots in *October*, when the Flowers are decayed; but as this is a slow Method of increasing this Plant, the better way is to cut off the Shoots, when they are about six Inches high; which, if planted in a shady Border, and duly watered, will have taken

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Root in two Months, or less; and, by the End of *October*, will be strong enough to plant into Borders, where they are to remain. Both these Plants delight in a gentle loamy Soil, not too strong or wet; in which they will thrive better, and flower stronger, than in a dry sandy Ground.

The second and third Sorts are Natives of the Country about the *Cape of Good Hope*; and are not such hardy Plants as the two before-mention'd: yet these have remained through the Winter in the open Air, in very mild Winters; but in severe Frost they are destroyed; therefore a Plant or two of each Sort should be sheltered in the Winter, to preserve the Kinds. These may be easily propagated by Cuttings in any of the Summer-months, if they are planted in a shady Border, and duly watered; where they will soon take Root: afterward they may be planted in Pots, and when the Frost comes on, they may be sheltered under a common Frame, where they may have as much Air as possible in mild Weather, and only screened from Frost: in such a Place these Plants will thrive much better than in a Green-house, where they are apt to draw up weak, for want of Air.

These Plants will also perfect their Seeds in this Country; which may be sown upon a common Bed of Earth in *April*, and in *June* the Plants will come up; which may be taken up, and planted into Pots in *August*; and these Seedling-plants will often flower the same Autumn. These two Sorts continue a long time in Flower, especially if they are not too tenderly managed: for if they are drawn up weak, they will not produce many Flowers; nor will the Plants appear so handsome.

CHRYSOPHYLLUM, The Bully-tree.

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The Characters are ;

The Empalement of the Flower is divided into five Parts : the Flower is of the open bell-shaped Form, consisting of one Leaf, and is slightly indented at the Brim in ten Divisions, five of which are larger than the other : in the Centre of the Flower is situated an oval Pointal, attended by five Stamina : the Pointal afterward becomes a fleshy Fruit, inclosing three or four rhomboidal Seeds, which are one half smooth, and the other rough.

The Species are ;

1. CHRYSOPHYLLUM foliis ovatis mucronatis, superne glabris, parallele striatis, subtus tomentosis, nitidis. The Star-apple.

2. CHRYSOPHYLLUM foliis lanceolatis obtusis, subtus aureis. The Bully-tree, or Bullace-tree.

3. CHRYSOPHYLLUM foliis lanceolatis glabris, utrinque concoloribus. The Sapadilla or Naseberry-tree.

This Genus is by Father Plumier titled *Cainito* ; which being the Indian Name of the Fruit, Dr. Linnaeus has altered the Title to this of *Chrysophyllum*, from the Leaves of the first and second Sorts being of a Gold-colour underneath.

The first Sort is very common in most of the Islands in the *West-Indies*, where it is planted for the Fruit ; which is esteemed by the Inhabitants, and used in their Desserts. The Underside of the Leaves of this Tree is covered with a fine shining silky Down, which is extremely beautiful : the Flowers are of a purplish Colour, and consist of five succulent Petals : the Fruit is in Shape and Size like an Apple ; having a smooth Skin : the Pulp is pleasant ; and, if the Fruit is cut transversly, the Cells in which the Seeds are lodged represent a Star ; from whence the Name of Star-apple was given to this Fruit. This Sort is by Father Plumier

ranged under his Genus of *Guana-banus* ; but as the other Species of that Genus have but three Petals to their Flowers, this must be separated from them.

The Bully, or Bullace-tree, is very common in all the mountainous Parts of *Jamaica* ; as also in the uncultivated Places in many other Parts : this is one of the largest Trees in the Islands : the Wood of this Tree is cut into Shingles, for covering the Houses ; for which Purpose it is greatly esteem'd. The Fruit of this Tree is very like in Shape to our Bullace ; from whence, I suppose, the *English* have given the Name to this Tree. This Fruit is frequently eaten by the Inhabitants of the Islands.

The Sapadilla, Sappatilla, or Naseberry tree, is now pretty common in most of the Islands in the *West-Indies*, although it is not a Native there ; but has been brought from the Continent in *New Spain*, where the Inhabitants cultivate these Trees for their Fruit. The *Spaniards* call it *Nesperia* ; i. e. *Mespilus*, or Medlar ; from whence the *English* have corrupted the Name to Naseberry. The Leaves of this Tree are in Shape like those of the first Sort ; but are of a stronger Consistence, and have no Down on their Underside. The Flowers are shaped somewhat like those of the Lily of the Valley, or the *Arbutus*. The Fruit is in Shape and Colour like a Russet-apple, and is very austere ; therefore is not eaten until it decays (like those of the Medlar), when it is esteemed a pleasant Fruit. The Fruit, when green, abounds with a milky Juice, as do the Leaves also. The Trees of this, and also of the first Sort, seldom grow very high in their Stems ; but they send forth great Numbers of slender Branches, which extend to a

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considerable Distance every Way, and hang downward; whereby they form very large Heads, and afford a goodly Shade: the lower Branches often hang so low, as almost to reach the Ground: their usual Height is from thirty to forty Feet.

These Trees, being Natives of the warmest Parts of the World, cannot be preserved in this Country, without being kept in the warmest Stoves; and should always remain in the Hot-bed of Tanners Bark, otherwise they will make but little Progress. They are all of them propagated by Seeds, which must be procured from the Places of their Growth; for they do not produce Fruit in *Europe*. These Seeds must be fresh, otherwise they will not grow: and if they are sent over in Sand, it will preserve them from drying too much: when the Seeds arrive, they must be sown as soon as possible in small Pots filled with fresh light Earth, and plunged into a good Hot-bed of Tanners Bark. If the Seeds are good, and the Bed in a proper Temperature of Warmth, the Plants will appear in five or six Weeks; and in about two Months after, will be strong enough to transplant; in doing of which, the Plants, with all the Earth, should be shaken out of the Pots very carefully, and separated with their Roots entire, and each planted into a separate small Pot filled with fresh rich Earth, and plunged again into an Hot-bed of Tanners Bark; watering and shading them until they have taken fresh Root. If the Hot-bed in which these Plants are plung'd, is from time to time stirred, and a little fresh Tan added to it, to renew the Heat when it declines, the Plants will make good Progress; and in three or four Months will be near a Foot high, and may then be shifted into Pots a small Size larger than

those they before were in. If these Plants are constantly kept in a warm Bed in the Stove, and shifted twice a Year, to renew the Earth in the Pots, they will thrive very fast, and put out their Side-branches, so as to make an handsome Appearance in the Stove, with other curious Plants of the same Country: for though they do not produce either Flowers or Fruit, yet, as they keep their Leaves through the Year, which are so very beautiful, they deserve a Place in the Stove, better than most other Plants. The chief Care they require, is to keep them constantly in a proper Degree of Heat, and never to put them into too large Pots: and in Winter they should not have too much Water: about twice a Week will be often enough to water them; and in the Depth of Winter they should not have much at each time.

These Trees are frequently propagated in the *West-Indies*, by planting of their Branches (as I have been informed by Persons of Credit); but they cannot be propagated in *England* by that Method.

CHRYSOSPLENIUM, Golden Saxifrage.

The Characters are;

It hath a perennial fibrose Root: the Calyx (or Flower cup) is divided into four Parts: the Flower hath no visible Petals, but hath eight Stamina, or Threads, which surround the Ovary: the Pointal becomes a membranaceous Vessel, which is forked and bivalve, inclosing many small Seeds.

The Species are;

1. **CHRYSOSPLENIUM** *foliis amplioribus auriculatis*. Tourn. Golden Saxifrage, with large ear'd Leaves,
2. **CHRYSOSPLENIUM** *foliis pediculis oblongis infidentibus*. Raii Syn. Golden Saxifrage, with Leaves standing on long Footstalks.

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These two Plants are found growing wild in many Parts of *England*, upon marshy Soils and Bogs, as also in moist shady Woods, and are seldom propagated in Gardens; where, if any Person have Curiosity to cultivate them, they must be planted in very moist shady Places, otherwise they will not thrive.

CIBOULS, or CHIBOULS.
Vide Cepa.

CICER, Chiches, or Chick-peas.

The Characters are;

It hath a pea-shaped (or papilionaceous) Flower, which is succeeded by short swelling Pods, somewhat like the inflated Bladder of a Fish: the Seeds are shap'd somewhat like a Ram's Head.

The Species are;

1. CICER *sativum*, *flore candido*.
C. B. P. Garden Chiches, with a white Flower.

2. CICER *sativum*, *semine rufo*.
C. B. Manured Chiches, with reddish Seeds.

3. CICER *sativum*, *semine nigro*.
C. B. Manured Chiches, with black Seeds.

4. CICER *sativum*, *flore ex rubro purpurascete*, *semine rubro*. C. B. Manured Chiches, with purplish-red Flowers, and red Seeds.

There are other Varieties of this Plant preserved in curious Botanic Gardens abroad; but these here enumerated are the common Sorts, which are cultivated in the Kitchen-gardens in *France*, *Italy*, *Spain*, &c. and, I believe, are all seminal Varieties; which alter and change the Colour of their Flowers and Seeds, as the common Garden-beans do.

This Plant is seldom cultivated in *England*, except in particular Gardens: nor do I think it worth planting for Use where Peas will do well; which are so much preferable for

Goodness, and much greater Bearers, producing above double the Quantity upon the same Ground: but in warmer Countries, where our delicate Sorts of Peas seldom thrive well, these may supply their Place; and, perhaps, in those Countries they are much more fruitful than with us.

The Seeds of these Chiches should be sown in *March*, in an open Situation, and upon a warm dry Soil, in Rows about two Feet asunder, and as thick as Peas are usually sown in the Rows. When the Plants are come up, the Ground must be hoed, and the Plants earth'd, as is practised for common Peas, to which this Plant agrees very well in its Culture. In *June* and *July* it will flower, and its Seeds will be ripe in *August* and *September*.

The People in *France* and *Italy* preserve them for boiling in the Winter-season, as we do our white and grey Peas, to which these are somewhat akin; but in *Spain* they are much used in all their Olio's and Soups, as they are also in *Portugal*; in which Countries they are called *Garavances*; which may be a common Name for more Sorts of Legumes; there being two Sorts of the Kidney-bean, which are commonly known by that Name in those Countries.

The Plants of this Cicer do not climb as the Pea doth, but extend their Shoots eighteen Inches each Way from the Root; although in *England* they are not very fruitful, and, on that account, are less valuable than Peas, were they equally good for the Table.

The Seeds are about the Size and Shape of a Roundival Pea; but have a Protuberance on one Side; and it is supposed this Legume gave Name to *Cicero*; who had a Wart or Protuberance

berance upon his Nose, somewhat resembling what is upon these Seeds.

CICHORIUM, Succory.

The Characters are ;

It is one of the milky Plants, with a plain radiated Flower: the Flowers are produced from the Sides of the Branches, at the Setting off of the Branches, upon short Footstalks: the Cup of the Flower is like a contracted Seed-vessel: the Seeds are angular, umbilicated, and in Shape somewhat like a Wedge.

The Species are ;

1. *CICHORIUM latifolium, five Endivia vulgaris. Tourn.* Common broad-leav'd Endive.

2. *CICHORIUM angustifolium, five Endivia vulgaris. Tourn.* Common narrow-leav'd Endive.

3. *CICHORIUM crispum. Tourn.* Curled Endive.

4. *CICHORIUM crispum angustifolium. Boerb. Ind.* Narrow-leav'd curled Endive.

5. *CICHORIUM sylvestre, five of-
ficinarum. C. B.* Wild Succory.

The first and second Sorts of Endive are now wholly disused in the Kitchen-gardens, as being vastly inferior to the curled Kinds ; which are by much the larger and handsomer Heads, and are not so bitter to the Taste as the broad-leav'd Kind. There is also another Sort, which is naturally white ; so requires but little blanching, and is very proper for the first Sowings ; but this being much tenderer than any of the other Sorts, will not bear the Frost ; so is unfit for Winter.

The Seasons for sowing their Seeds are in *May, June, and July*, at four or five different times ; for that which is first sown is very subject to run to Seed, especially if the Autumn prove warm and dry : but however, it is necessary to have a little sown in the Decrease of the Moon

in *May*, for the first Crop ; and again in *June*, the Middle or Latter-end ; and for the last Crop, about the Middle of *July*. These Seeds should be sown in an open Situation, and a good rich Soil, but not too thick. When the Plants are come up, and grown to be about two Inches high, they must be transplanted into another good open Spot of Ground, at about ten Inches distant every Way ; observing to trim off the Tops of the largest Leaves with your Knife before you plant them ; as also to water them constantly every other Evening, until they have taken fresh Root : after which time they will need no other Care, but to keep them clean from Weeds, until they have so spread as almost to meet, and cover the Ground.

Then you should provide a Parcel of small Osier-twigs (or Bals-mat) to tie up some of the largest to blanch ; which should be done in a dry Afternoon, when there is neither Dew nor Rain to moisten the Leaves in the Middle of the Plants, which would occasion their rotting soon after their being tied up. The Manner of doing it is as follows ; *viz.* You must first gather up all the inner Leaves of the Plant, in a regular Order, into one Hand ; and then take up those on the Outside that are sound, pulling off, and throwing away, all the rotten and decayed Leaves ; observing to place the outside Leaves all round the middle ones, as near as possible to the natural Order of their Growth, so as not to cross each other : then having got the whole Plant close up in your Hand, tie it up with the Twig, &c. at about two Inches below the Top, very close ; and about a Week after go over the Plants again, and give them another Tie about the Middle of the Plant, to prevent the Heart-leaves

leaves from bursting out on one Side; which they are subject to do, as the Plants grow, if not prevented this way.

In doing of this you need only tie up the largest Plants first, and so go over the Piece once a Week, as the Plants increase their Growth; by which means you will continue the Crop longer than if they were all tied up at one time: for when they are quite blanched, which will be in three Weeks or a Month after tying, they will not hold sound and good above ten Days or a Fortnight, especially if the Season proves wet: therefore it is that I would advise to sow at four different Seasons, that you may have a Supply as long as the Weather will permit. But in order to this, you must transplant all the Plants of the last Sowing under warm Walls, Pales, or Hedges, to screen the Plants from Frost: and if the Winter should prove very sharp, you should cover them with some Peas-haulm, or such other light Covering, which should be constantly taken off in mild Weather: these Borders should also be as dry as possible; for these Plants are very subject to rot, if planted in a moist Soil in Winter.

Although I before directed the tying up of the Plants to blanch them, yet this is only to be understood for the two first Sowings; for after *October*, when the Nights begin to be frosty, those Plants which are so far above-ground will be liable to be much prejudiced thereby; therefore the best Method is, to take up your Plants of the latter Sowings in a very dry Day, and with a large flat-pointed Dibble plant them into the Sides of Trenches of Earth, which are laid very upright, side-wise, towards the Sun, with the Tops of the Plants only out of the Ground,

so that the hasty Rains may run off, and the Plants be kept dry, and secured from Frosts.

The Plants, thus planted, will be blanched fit for Use in about three Weeks or a Month's time; after which it will not keep good long: you should therefore keep planting some fresh ones into Trenches every Fortnight at least, that you may have a Supply: and those which were last transplanted out of the Seed-beds, should be preserv'd till *February* or *March*, before they are planted to blanch; so that from this you may be supplied until the Beginning of *April*, or later: for at this last planting into the Trenches it will keep longer than in Winter, the Days growing longer; and the Sun, advancing with more Strength, dries up the Moisture much sooner than in Winter, which prevent the rotting of these Plants.

When your Endive is blanched enough for Use, you must dig it up with a Spade; and after having cleared it from all the outside green and decayed Leaves, you should wash it well in two or three different Waters to clear it the better from Slugs, and other Vermin, which commonly shelter themselves amongst the Leaves thereof; and then you may serve it up to the Table with other Sallading.

But in order to have a Supply of good Seeds for the next Season, you must look over those Borders where the last Crop was transplanted, before you put them into the Trenches to blanch; and make choice of some of the largest, soundest, and most curled Plants, in Number according to the Quantity of Seeds required: for a small Family, a dozen of good Plants will produce enough Seeds; and for a large, two dozen or thirty Plants.

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These should be taken up and transplanted under an Hedge or Pale at about eighteen Inches distant, in one Row about six Inches from the Hedge, &c. This Work should be done the Beginning of *March*, if the Season is mild, otherwise it may be deferred a Fortnight longer. When the Flower-stems begin to advance, they should be supported with a Packthread, which should be fastened to Nails driven into the Pale, or to the Stakes of the Hedge, and run along before the Stems, to draw them upright close to the Hedge or Pale; otherwise they will be liable to break with the strong Winds. Observe also to keep them clear from Weeds, and about the Beginning of *July* your Seeds will begin to ripen: therefore, as soon as you find the Seeds are quite ripe, you must cut off the Stalks, and expose them to the Sun upon a coarse Cloth to dry; and then beat out the Seeds, which must be dried, and put up in Bags of Paper, and preserved for Use in some dry Place. But I would here caution you, not to wait for all the Seeds upon the same Plant; for if so, all the first ripe and best of the Seeds will scatter and be lost before the other are near ripe; so great a Difference is there in the Seeds of the same Plant being ripe.

The wild Succory, of which there are some Varieties in the Colour of the Flowers, is seldom propagated in Gardens; it growing wild in unfrequented Lanes and Dunghills in divers Parts of *England*, where the Herb-women gather it, and supply the Markets for medicinal Use.

CICUTA, Hemlock.

The Characters are;

The Leaves are cut into many minute Segments: the Petals of the Flower are bifid, heart-shaped, and

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unequal: the Flower is succeeded by two short channelled Seeds.

The Species are;

1. CICUTA major. C. B. Common or Greater Hemlock.

2. CICUTA minor, petroselinio similis. C. B. Lesser Hemlock, or Fool's-parsley.

There are some other Varieties of this Plant, preserved in curious Botanic Gardens; but the two Sorts here mentioned are what we find wild in *England*.

The first Sort grows to a considerable Height, and is chiefly found upon the Sides of dry Banks in many Parts of *England*: the Leaves of this Plant are of a shining green Colour, and the Stalks are full of purple Spots; by which it is easily distinguished from any Plants that resemble it. This Sort is sometimes used in Medicine; tho' by many People it is thought to have a noxious Quality: but the Hemlock of the Antients, which was such deadly Poison, is generally supposed to be very different from this.

This second Sort is of a smaller Growth, and so like Parsley, that some unskilful Persons have gathered it, and used it as such; by which several Persons have suffered in their Health, and some have been destroyed thereby, which occasioned the Name of Fools-parsley.

These Plants are never propagated in Gardens for Use, but are gathered by the Herb-women in the Fields.

CICUTARIA. Vide Ligusticum.

CINARA, The Chardon.

CINARA spinosa, cujus pediculi esitantur. C. B. P. 383. Chardon or Cardoon, vulgo.

The other Species of this Genus are treated under the Title Artichoke.

This Plant is propagated by Seeds, which should be sown on an open Bed

Bed of light Earth the Beginning of *March*; and when the Plants appear above-ground, they should be carefully weeded, and in dry Weather often refreshed with Water. By the Beginning of *May* the Plants will be fit to transplant; when you should prepare some Beds of light rich Earth, into which they should be transplanted, placing them in Rows one Foot asunder, and eight Inches Distance Plant from Plant in the Rows; observing to water them constantly, until they have taken Root; after which time they will require little more than to be kept clear from Weeds. About the Middle or Latter-end of *June*, the Plants will have acquired Strength enough to plant out for Continuance; at which time you must carefully dig a Spot of light rich Ground, into which you should transplant the Plants, placing them in Rows at four Feet Distance every Way, observing to water them, until they have taken Root; after which you must keep them very clear from Weeds. In *August* these Plants will be fit to tie up, which must be performed in the following manner; *viz.* You should first prepare a Parcel of Hay-bands; then, in a dry Day, you must gather up the Leaves regularly, as they were produced; and having taken them up as close as possible, without bruising them, you must fasten the Hay-band round them near the Top, so as to keep them up: then with a Spade you must bank up the Earth round the Plants, leaving about ten Inches or a Foot of their Tops uncovered; being careful that the Earth does not get into the Centre of the Plants, which would endanger their rotting. As the Plants advance in Height, they must be earthed up from time to time, in the same manner as is practised for Celery; by

which means most of the Earth between the Plants will be raised about them; for if they thrive kindly, they will grow to the Height of three Feet and an half, or four Feet; and will, when taken up for Use, be near three Feet in Length, when trimmed from their outer Leaves. And it is in this their Excellency consists; for it is only the tender blanched Part which is valuable.

Those Chardons which were transplanted out in *June*, will be fit for Use by *September*; but those which were later transplanted, will not be fit for Use until *October*; and some of them will continue until the End of *November*, or the Middle of *December*, provided the Seasons be favourable; but in very wet Seasons, or severe Frosts, they often rot and decay.

In order to save Seeds of this Plant, you should preserve some of the strongest and most vigorous Plants, observing in severe Frosts to cover them lightly with Straw, or Peas-haulm; which should be constantly taken off in mild Weather, otherwise it will endanger the rotting of the Plants. In the Spring the Earth should be taken from the Plants gradually, that the Stems may advance; and in *June* their Heads will be formed much like a small Artichoke, but full of sharp Thorns: in these Heads the Seeds are contained, which will be ripe in *August*.

CINERARIA. *Vide Jacobæa.*

CIRCEA, Inchanter's Nightshade.

The Characters are;

It hath a perennial creeping Root: the Leaves, which are whole, and shaped somewhat like those of Nightshade, are placed alternately upon the Branches: the Flower consists of two Leaves, which rest upon a two-leav'd Empalement: the Flowers are suc-

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ceeded by a pear-shaped Fruit, which is burry on the Outside, and divided into two Cells; in each of which are contained, for the most part, two oblong Seeds.

The Species are;

1. *CIRCEA Lutetiana*. Lob. Icon. Inchanter's Nightshade.

2. *CIRCEA minima*. Col. The smallest Inchanter's Nightshade.

The first of these Plants is very common in moist shady Places, and under Hedges, in most Parts of England; but the second hath not been found wild with us, tho' it grows in Plenty in the Woods near the Hague, where I gathered it, and brought it into England, where it continues to retain its Difference from the common Sort, notwithstanding some People have supposed it to be the same. They are both great Runners in a Garden; for which Reason they should be planted, by those who would keep them for Variety, in some abject shady Part of the Garden, where few other things will grow.

CIRSIUM, Soft or Gentle-thistle; and by some Melancholy-thistle.

The Characters are;

It hath Leaves and Flowers very like those of the Thistle; but the Spines upon the Leaves are softer, and the Cup of the Flower is destitute of Spines.

The Species are;

1. *CIRSIUM Anglicum*. Ger. The English Soft or Gentle-thistle.

2. *CIRSIUM Bricannicum*, *Clusii repens*. J. B. The great English Soft, Gentle, or Melancholy-thistle.

3. *CIRSIUM maximum*, *asphodeli radice*. C. B. The greatest asphodel-rooted Gentle-thistle.

4. *CIRSIUM maculis argenteis notatum*. Tourn. The white-spotted Gentle-thistle.

5. *CIRSIUM majus*, *singulari ca-*

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pitulo magno, florum staminibus purpureis. C. B. P. Gentle-thistle, with a large single Head, and purple Stamina.

6. *CIRSIUM foliis non hirsutis, floribus compactis*. C. B. P. Gentle-thistle with smooth Leaves, and compact Heads.

7. *CIRSIUM angustifolium non laciniatum*. C. B. P. Gentle-thistle with narrow whole Leaves.

8. *CIRSIUM pratense asphodeli radice, latifolium*. Inst. R. H. Broad-leav'd Gentle-thistle, with an Asphodel-root.

9. *CIRSIUM humile angustifolium*. Inst. R. H. Low narrow-leav'd Gentle-thistle.

10. *CIRSIUM tuberosum, capitulis squarrosis*. Hort. Elth. Tuberoserooted Gentle-thistle, with rough Heads.

11. *CIRSIUM latifolium, lappæ capitulis*. Inst. R. H. Broad-leav'd Gentle-thistle, with Heads like the Burdock.

12. *CIRSIUM acanthoides montanum, flore flavescente*. Inst. R. H. Mountain Gentle-thistle, with Leaves like Bear's-breech, and a yellowish Flower.

13. *CIRSIUM humile montanum, cynoglossi folio, polyanthemum*. Raii Syn. Dwarf mountain Gentle-thistle, with an Hound's-tongue-leaf, and many Flowers.

The first and second Sorts grow wild in England; and the thirteenth is found upon the Mountains in Wales; so are seldom cultivated in Gardens: the two first are very apt to spread at their Roots, so that they are very troublesome Weeds where they once get Possession: the last Sort is of humble Growth, and does not spread at the Root.

All the other Sorts, except the tenth, grow in Spain, Portugal, and Franco: but these are extreme hardy Plants;

Plants; so will grow in any Situation; but not in Places where they have too much Wet in Winter: they may be all propagated by Seeds, which should be sown the Beginning of April, in a Bed of common Earth; and when the Plants are come up, where they are too close, they should be thinned, and kept clean from Weeds till the following October, when they may be transplanted where they are to remain.

Most of these Sorts require a large Share of room; for their Leaves are large, and spread very wide; and their Stalks will rise to the Height of four or five Feet, having many Branches, which must be supported with Stakes, otherwise the Wind will break them down, and render them unsightly: they may also be propagated by parting their Roots in October, which must be treated as the Seedling-plants. Some of these Sorts have been propagated in Physic-Gardens for medicinal Use, as they were supposed to have Virtue in curing Madness; but they are not fit Ornaments for other Gardens.

The tenth Sort is a Native of Virginia and Carolina, from whence their Seeds have been brought into Europe; and many of the Plants have been raised in England, which are preserved by the Curious in Botany; but there is no great Beauty in the Flowers: the Roots of these Plants grow as large as a Walnut; the Stems rise about two Feet high, and are garnished with Flowers almost their whole Length; these do not perfect their Seeds in this Country.

CISTUS, Rock-rose.

The Characters are;

It hath the Appearance of a Tree: the Leaves are produced by Pairs opposite upon the Branches: the Cup of the Flower consists of three or five Leaves: the Flower consists of many

Leaves, which are expanded in form of a Rose, having abundance of Stamina or Threads in the Middle: from the Centre of the Cup arises the Ovary, which is rough and hemispherical, and becomes a roundish or pointed Vessel, consisting of many Cells, in which are contained many small Seeds.

The Species are;

1. CISTUS mas, folio oblongo incano. C. B. The Male Cistus or Rock-rose, with oblong hoary Leaves.

2. CISTUS mas major, folio rotundiori. C. B. The greatest Male Cistus or Rock-rose, with roundish Leaves.

3. CISTUS mas, folio breviori. C. B. Short-leav'd Male Cistus or Rock-rose.

4. CISTUS mas, foliis undulatis & crispis. Tourn. Male Cistus or Rock-rose, with waved and curled Leaves.

5. CISTUS ladanifera Monspe-liensium. C. B. The gum-bearing Cistus, or Rock-rose of Montpellier.

6. CISTUS ladanifera Hispanica, salicis folio, flore candido. Tourn. Spanish gum-bearing Cistus or Rock-rose, with Willow-leaves, and white Flowers.

7. CISTUS ladanifera Hispanica, salicis folio, flore albo, macula punicante insignito. Tourn. Spanish gum-bearing Cistus or Rock-rose, with Willow-leaves, and white Flowers spotted with Purple.

8. CISTUS ledon latifolium Cre-ticum. J. B. Sweet broad-leav'd Cistus or Rock-rose from Crete.

9. CISTUS ledon, foliis populi nigrae, major. C. B. Large sweet Cistus or Rock-rose, with black Poplar-leaves.

10. CISTUS ledon, foliis populi nigrae, minor. C. B. Small sweet Cistus or Rock-rose, with black Poplar-leaves.

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11. *CISTUS ladanifera Cretica*, flore purpureo. Tourn. Cor. Sweet gum-bearing Cistus or Rock-rose from Crete, with purple Flowers.

12. *CISTUS mas Lusitanica, folio amplissimo incano*. Inst. R. H. Male Portugal Rock-rose, with an ample hoary Leaf.

13. *CISTUS fœmina, folio salviæ, elatior, & rectis virgis*. C. B. P. Female Rock-rose, with Sage-leaves, and the Shoots growing erect.

14. *CISTUS fœmina, folio salviæ, supina humi sparsa*. C. B. P. Low-spreading Female Rock-rose, with a Sage-leaf.

15. *CISTUS ledon, hirsutum*. C. B. P. Hairy gum Cistus or Rock-rose.

16. *CISTUS ledon angustis foliis*. C. B. P. Narrow-leav'd gum Cistus or Rock-rose.

17. *CISTUS ledon, foliis rorismarini hispidis*. C. B. P. Gum Cistus or Rock-rose, with prickly Rosmary-leaves.

The various Kinds of these Plants are very great Ornaments to a Garden: their Flowers are produced in great Plenty all over the Shrubs, which, tho' but of a short Duration, yet are succeeded by fresh ones almost every Day for above two Months successively. These Flowers are many of them about the Bigness of a middling Rose, but single, and of different Colours. The Plant continues green throughout the Year.

These Plants are all of them hardy enough to live in the open Air in England, unless in very severe Winters, which often destroy them; so that a Plant or two of each Sort may be kept in Pots, and sheltered in Winter, to preserve the Kinds: the rest may be intermixed with other Shrubs, where they will make a pretty Diversity; and in such Places, where they are sheltered by other

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Plants, they will endure the Cold much better than where they are scattered singly in the Borders. Many of these Plants will grow to the Height of five or six Feet, and will have large spreading Heads, provided they are permitted to grow uncut; but if they are ever trimmed, it should be only so much as to prevent their Heads from growing too large for their Stems; for whenever this happens, they are apt to fall on the Ground, and appear unsightly.

When these Plants are propagated by Seeds, they are very apt to vary from the original Plants whence the Seeds were taken; so that I believe many of them, which are enumerated as different Species, are only accidental Varieties; but those which are distinguished by the Title of Male, never produce any of the Female, nor *vice versa*.

These Sorts may all be propagated by sowing their Seeds upon a gentle Hot-bed, or on a warm Border in the common Ground in March; and when the Plants are come up about three Inches high, they should be transplanted either into small Pots, or a Border of good light Earth, at about ten Inches Distance every Way: if they are planted into Pots, they should be removed under a common Hot-bed-frame in Winter, to defend them from the Frost, which may be hurtful to them while young, if they are not protected from it; but they should have as much free open Air as possible in mild Weather, and will require to be often refreshed with Water.

In the Spring following, these Plants may be turned out of the Pots, with all the Earth preserved to their Roots, and planted in the Places where they are to remain (for they are bad Plants to remove when grown old), observing to give them
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now-and-then a little Water, until they have taken fresh Roots; after which time they will require no farther Care, than to train them upright in the manner you would have them grow: but those Plants which were at first planted into a Border in the open Ground, should be arched over, and covered with Mats in frosty Weather, during the first Winter; but may be transplanted abroad the succeeding Spring. In removing of these Plants, you should be careful to preserve as much Earth about the Roots as you can; and if the Season should prove hot and dry, you must water and shade them, until they have taken fresh Root; after which they will require no other Culture than was before directed.

These Plants may be also propagated by planting Cuttings of them upon a gentle warm Bed in *May* or *June*, keeping them shaded with Mats, and frequently refreshed with Water, until they have taken Root, which will be in about two Months time; when you may transplant them into Pots filled with good fresh light Earth, which should be set in a shady Place until they have taken Root, and then may be exposed to the open Sun until *October*, when you should remove them into Shelter the first Winter; but the succeeding Spring you may plant them abroad, as was before directed for the Seedling-plants.

The seventh Sort is by much the most beautiful of all these *Cistus's*: the Flowers, which are as big as an handsome Rose, are of a fine White, with a deep-purple Spot on the Bottom of each Leaf. This Plant also abounds with a sweet glutinous Liquor, which exudes thro' the Pores of the Leaves in so plentiful a manner, in hot Weather, that the Surfaces of the Leaves are covered there-

with. From this Plant *Clusius* thinks might be gathered great Quantities of the Ladanum, which is used in Medicine, in the Woods in *Spain*, where he saw vast Quantities of this Shrub growing.

Neither this Sort, nor the sixth, often perfect their Seeds in *England*; so must be propagated by Cuttings, unless their Seeds are procured from *Spain* and *Portugal*, where they abound; and from whence great Quantities of Seeds have been lately sent to *England*.

All the other Sorts produce Plenty of Seeds, so that there will be no Necessity for propagating those by Cuttings; because those Plants which come from Seeds, will be much better: these all grow wild in the South of *France*, in *Portugal*, *Spain*, and other warm Countries.

But it is from the eleventh Sort, that Monsieur *Tournefort* says the *Greeks* in the *Archipelago*, gather this sweet Gum: in the doing of which, *Bellonius* says, they make use of an Instrument like a Rake, without Teeth, which they call *Ergastri*: to this are tied many Thongs of raw and untanned Leather, which they rub gently upon the Bushes, that produce the Ladanum, that so that liquid Moisture may stick upon the Thongs: after which they scrape it off with Knives: this is done in the hottest time of the Day; for which Reason, the Labour of gathering this Ladanum is excessive, and almost intolerable, since they are obliged to remain on the Mountains for whole Days together, in the very Heat of Summer, or the Dog-days: nor is there any Person almost that will undertake this Labour, except the *Greek Monks*.

Monsieur *Tournefort* also relates the same in his Travels; where he says, That the Shrubs which produce

duce the *Ladanum* grow upon dry sandy-Hillocks; and that he observed several Country-fellows in their Shirts and Drawers, that were brushing the Shrubs with their Whips; the Straps whereof, by being drawn over the Leaves of the Plant, licked up a sort of odoriferous Balsam sticking upon the Leaves, which he supposes to be Part of the nutritious Juice of the Plant, which exudes through the Pores of the Leaves, where it remains like a fattish Dew, in shining Drops as clear as Turpentine.

When the Whips are sufficiently laden with this Grease, they take a Knife, and scrape it clean off the Straps, and make it up into a Mass of Cakes of different Sizes: this is what comes to us under the Name of *Ladanum* or *Labdanum*. A Man that is diligent, will gather three Pounds two Ounces per Day, or more, which they sell for a Crown on the Spot. This work is rather unpleasant than laborious; because it must be done in the hottest Time of the Day, and in the greatest Calm. And yet the purest *Ladanum* is not free from Filth; because the Winds of the preceding Days have blown Dust upon these Shrubs, which, by the glewy Substance upon the Surfaces of the Leaves, is thereby detained, and mixed therewith. But to add Weight to this Drug, they knead it up with a very fine blackish Sand, which is found in those Parts; as if Nature herself was minded to teach them how to adulterate this Commodity. It is no easy thing to discover this Cheat, when the sand has been well blended with the *Ladanum*: in order to which you must chew it for some time, to find whether it crackles between the Teeth; and if it doth, you must first dissolve it, and then

strain it, in order to purify away what has been added to it.

CITREUM, The Citron-tree.

The Characters are;

It hath broad stiff Leaves like those of the Laurel, but without any Appendix (as hath the Orange): the Flowers consist of many Leaves, which expand in form of a Rose: the Cup of the Flower is slender and fleshy, and is divided into five Segments at the Top: the Pistil of the Flower becomes an oblong, thick, fleshy Fruit, which is divided into many Cells, is very full of Juice, and contains several hard Seeds.

The Species are;

1. CITREUM *vulgare*. Tourn. The common or ordinary Citron.

2. CITREUM *dulci medulla*. Tourn. The sweet Citron.

3. CITREUM *magno fructu*. Tourn. The large Citron.

4. CITRIOIDES, *vulgo Citratum Florentinum, fructu magno plerumque turbinato, laevi ac suavi medulla, cortice odoratissimo, foliis longioribus citro*. Hort. Piss. Florentine Citron, with large sweet Fruit, of a sweet-smelling Rind, and long Leaves.

5. CITRIOIDES, *seu Citratum Florentinum, fructu mucronato & recurvo, cortice verrucoso odoratissimo*. Hort. Piss. Florentine Citron, with a pointed Fruit, which is recurved, and a warted sweet-smelling Rind.

6. CITRIOIDES, *seu Citratum Florentinum, fructu minori, fere rotundo, acriori medulla, cortice odoratissimo*. Hort. Piss. Florentine Citron, with a small roundish Fruit, with a sharp Taste, and sweet-smelling Rind.

7. CITRIOIDES, *seu Citratum Florentine odoratissimum, fructu prolifero*. Hort. Piss. Sweet-smelling Florentine Citron, with Fruit coming out of each other.

There are several other Varieties of this Fruit, with which the English Gardens

Gardens have been supplied from *Genoa*, where is the great Nursery for the several Parts of *Europe* for this Sort, as also Orange and Lemon-trees: and the Gardeners who cultivate them there, are as fond of introducing a new Variety to their Collection, as the Nursery-men in *England* are of a new Pear, Apple, Peach, &c. so that the Varieties being annually increased, as are many of our Fruits from Seeds, there is like to be no End of the Variety of these, nor of the Orange and Lemon-trees.

The most valuable Kind of these Fruits is the fifth, which is in so great Esteem, that the single Fruits are sold at *Florence* for two Shillings each, and are sent as Presents to the Courts of Princes. This Fruit is not to be had in Perfection in any other Parts of *Italy*, but in the Plain between *Pisa* and *Leghorn*: and although Trees of this Kind have been transplanted from that Spot to divers other Parts of *Italy*, yet they are found to lose much of that excellent Taste with which they abound in those Plains.

The several Sorts of Citrons are cultivated much in the same manner as the Orange-tree; to which I shall refer the Reader, to avoid Repetition: but shall only remark, that these are somewhat tenderer than the Orange, and should therefore have a warmer Situation in Winter; otherwise they are very subject to cast their Fruit. They should also continue a little longer in the House in the Spring, and be carried in again sooner in the Autumn; as also have a warmer and better defended Situation in the Summer, though not too much exposed to the Sun in the Heat of the Day.

And as their Leaves are larger, and their Shoots stronger, than those

of the Orange, they require a greater Plenty of Water in the Summer; and in Winter they should have but little Water at each time, which must be the oftener repeated. The Soil ought to be much the same as for the Orange-tree, but not quite so strong.

The common Citron is much the best Stock to bud any of the Orange or Lemon Kinds upon, it being the straitest and freest-growing Tree: the Rind is smoother, and the Wood less knotty, than either the Orange or Lemon, and will take either Sort full as well as its own Kind; which is what none of the other Sorts will do: and these Stocks, if rightly managed, will be very strong the second Year after sowing, capable to receive any Buds, and will have Strength to force them out vigorously; whereas it often happens, when these Buds are inoculated into weak Stocks, they frequently die, or remain till the second Year before they put out: and those that shoot the next Spring after budding, are oftentimes so weak as hardly to be fit to remain, being incapable to make a strait handsome Stem, which is the great Beauty of these Trees.

CITRUL; *vide* Pepo.

CLARY; *vide* Horminum, or Sclarea.

CLEMATIS, Travellers Joy.

The Characters are;

It hath a perennial fibrose Root: the Leaves grow opposite upon the Stalks: the Flowers, which consist, for the most part, of four Leaves, placed in form of a Cross, are naked, having no Calyx. In the Centre of the Flower are many hairy Stamina (or Threads), which surround the Pointal: the Pointal afterward becomes a Fruit, in which the Seeds are gathered, as it were, into a little Head, ending in a kind of Plume.

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The Species are;

1. CLEMATIS *sive flammula surrecta alba*. C. B. Upright white Climber.

2. CLEMATIS *cærulea erecta*. C. B. Upright blue Climber.

3. CLEMATIS *Hispanica surrecta altera & humilior, flore albicante*. H. R. Par. Low Spanish Climber, with a whitish Flower.

4. CLEMATIS *sylvestris latifolia*. C. B. Great wild Climber, or Travellers Joy.

5. CLEMATIS *sylvestris latifolia, foliis non incis. Tourn.* Great wild Climber, or Travellers Joy, with undivided Leaves.

6. CLEMATIS *peregrina, foliis pyri incis.* C. B. Spanish Climber, or Travellers Joy, with cut Leaves.

7. CLEMATIS *Canadensis trifolia dentata, flore albo*. H. R. Par. Three-leaved Canada Climber, with a white Flower.

8. CLEMATIS *cærulea, vel purpurea repens*. C. B. Purple creeping Climber, or single Virgins-bower, *vulgo*.

9. CLEMATIS *cærulea, flore pleno*. C. B. Blue Climber, with a double Flower, or double Virgins-bower, *vulgo*.

10. CLEMATIS *repens rubra*. Boerb. Ind. Red creeping Climber.

11. CLEMATIS *Orientalis, folio apii, flore ex viridi flavescente, posteriorius reflexo*. T. Cor. Eastern Climber, with a Smallage-leaf, and a reflexed Flower of a greenish Yellow.

12. CLEMATIS *purpurea repens, petalis florum coriaceis*. Banist. Cat. Purple creeping Climber, with stiff Petals.

The 1st, 2d, and 3d Sorts die to the Surface of the Ground every Winter; but their Roots are of long Continuance, arising again in the Spring. The 2d and 3d usually

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grow with us about three or four Feet high, and produce great Quantities of Flowers; but the 1st Sort is of humbler Growth, seldom rising above 18 Inches; but, in other respects, is very like the 3d.

These Plants are propagated either by Seeds, or parting of their Roots; but the former being a tedious Method (the Plants seldom rising until the second Year after sowing, and are often two Years more before they flower), the latter is generally practised. The best Season for parting these Roots is in October or February; either just before their Branches decay, or before they rise again in the Spring.

They will grow almost in any Soil or Situation: but if the Soil is very dry, they should always be new planted in the Autumn, otherwise their Flowers will not be so strong: but if the Soil be wet, it is better to defer it until the Spring. The Roots may be cut through their Crowns with a sharp Knife, observing to preserve to every Off-set some good Buds or Eyes; and then it matters not how small you divide them; for their Roots increase very fast: but if you part them very small, you should let them remain two Years before they are again removed, that the second Year their Flowers may be strong, and the Roots multiplied in Eyes, which in one Year cannot be obtained.

These Plants are extreme hardy, enduring the Cold of our severest Winters in the open Air; and are very proper Ornaments for large Gardens, either to be planted in large Borders, or intermix'd with other hardy Flower-roots in Quarters of flowering Shrubs; where, by being placed promiscuously in little open Places, they fill up those small Vacancies, and are agreeable enough. They begin

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begin to flower about the Beginning of *June*, and often continue to produce fresh Flowers until *September*; which renders them valuable, especially since they require very little Care in their Culture; for their Roots may be suffer'd to remain several Years undisturb'd, if we do not want to part them, which will not in the least prejudice them.

The 4th and 5th Sorts are found wild in most Parts of *England*, especially the 4th, which grows upon the Sides of Banks, under Hedges, and extends its trailing Branches over the Trees and Shrubs that are near it. This Plant in the Autumn is generally covered with Seeds, which are collected into little Heads, each of which having, as it were, a rough Plume fasten'd to it, hath occasion'd the Country-people to give it the Name of Old Man's Beard. The 5th Sort, being no more than an accidental Variety of the 4th, is often found intermix'd therewith. The Country-people make use of the Branches of this Plant for binding up Fagots: their Branches, being very tough and pliable, are very proper for this Purpose.

The 6th Sort is an Ever-green; and although it be a Native of a warm Country, yet I find is hardy enough to endure the Cold of our Climate in the open Air. This Plant commonly produces vast Quantities of large greenish-yellow Flowers in the Depth of Winter (provided it is not retarded by very severe Weather); for which Reason, together with the Beauty of its verdant Leaves at that Season, it deserves a Place in every good Garden: but as the Branches of this Sort extend to a considerable Distance, it should have a Wall or Pale, to which they must be fastened to support

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them, otherwise they will lie on the Ground.

The 7th Sort is very like the 4th, which is our common Sort; from which it only differs in having but three Lobes to each Leaf, whereas the other has five or more.

The 8th and 10th Sorts are the most common in *Spain* and *Italy*; from whence they were brought into *England*, and are now propagated in the Nursery-gardens for Sale, under the Title of *Single* and *Double Virgins-bower*. The purple Sort is more commonly to be found than the red Sort, which has been but of late Years introduced into the *English* Gardens; and is, at present, but in few of the Nurseries near *London*. This, and the double Sort, are very pretty Ornaments to the Flower-garden.

The 11th and 12th Sorts are also uncommon in *England* at present: the 11th was brought from the *Levant* by *Monf. Tournefort*, the chief Botanist of the late King of *France*. The 12th was brought from *America*, where it is found in divers Parts in great Plenty; but particularly in *Virginia* and *North Carolina*; from whence I have received Seeds of this Plant, which have grown with me in the Physic-garden.

The nine last-mentioned Sorts are all of them trailing Plants, some of them growing to a very great Length; particularly the 4th, 5th, and 7th Sorts, which should be planted in large Wilderness-quarters, near the Stems of great Trees, to which they should be train'd up; where, by their wild Appearance, they will be agreeable enough.

The other Sorts are proper enough to intermix with flowering Shrubs of a middling Growth; where, being fasten'd to strong Stakes, they will
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rise about six or seven Feet high, and produce great Quantities of Flowers. These may also be planted to cover Seats in Wilderness-quarters, that are designed for Shade; to which Purpose these Plants are very well adapted; requiring little more Care than to train their Branches regularly at first, after which they will maintain themselves very well.

These Plants are propagated by laying down their Branches (as is practis'd for Vines), which in one Year's time will take Root, provided the Layers are chosen from the Shoots of the same Year's Growth; for if the older Branches are laid down, they seldom take Root; or if they do, it is commonly two Years before they will be fit to cut off from the old Plants. The best Time for making these Layers is about the Beginning of *October*, when the Plants have done shooting; which if rightly performed, the Layers will have taken good Root by that time Twelve-month, and may then be remov'd to the Places where they are design'd to remain; or into a Nursery-bed, where they may grow a Year or two; but when these are removed to the Places where they are to stand, you must observe to lay a little Mulch upon the Surface of the Ground round their Roots, and to water them gently in dry Weather. In two Years after planting they will make very strong Shoots, which should be train'd up to Stakes, that they may not trail upon the Ground; which would spoil their flowering, and render them very unsightly. From this time they will require no farther Care, than to cut out every other Year the decay'd Branches; and in

the Spring, to shorten such Branches as may have grown too long and rambling from the Places where they are planted.

These also may be rais'd from Seeds, which should be sown either as soon as ripe, or very early in the Spring, in a Bed of fresh light Earth, or in Pots or Boxes fill'd with some Earth; because the Seeds of most of these Plants remain in the Ground until the second Spring before they appear, especially if they were not sown in Autumn. When the Plants came up, they must be carefully clean'd from Weeds; and in very dry Weather frequently water'd; and in the succeeding Spring they should be transplanted out into Nursery-beds, where they may remain two Years longer; by which time they will have arriv'd at Strength to flower, and may then be remov'd to the several Places where they are to remain.

CLETHRA.

The Characters are;

The Emplacement of the Flowers consists of five oval concave Leaves: the Flower hath also five oblong Petals, which extend beyond the Emplacement: the Pointal is situated in the Centre of the Flower, having a trifid Stigma, and is attended by ten Stamina, which are stretched beyond the Flower, and are covered with Summits: the Pointal afterward becomes a roundish Fruit, opening in three Cells, and filled with small angular Seeds.

We have but one Sort of this Shrub; viz.

CLETHRA. *Flor. Virg.*

This Shrub is figured by Dr. Plukenet, under the Title of *Alnifolia Americana serrata, floribus pentapetalis albis in spicam dispositis.*

Tab.

Tab. 115. fol. 1. It is also well figured in Mr. Catesby's History of Carolina.

This Shrub is a Native of Virginia and Carolina, where it grows in moist Places, and near the Sides of Rivulets, rising to the Height of twelve or fourteen Feet: the Leaves are in Shape like those of the Alder-tree; but are smaller: these are placed alternately upon the Branches: the Flowers are produced at the Extremity of the Branches, in close Spikes: they are composed of five Leaves, are white, and full of Stamina: these are produced in July.

This is hardy enough to bear the open Air of England, and is one of the most beautiful Shrubs at the Season of its flowering; which is very little later than in its native Country, being commonly in Flower here by the Latter-end of July: and as the Spikes of Flowers are produced upon most of the Shoots, the whole Shrub appears covered with Flowers. This must have a moist Situation, otherwise it will not thrive; and if it is sheltered by other Trees, at a little Distance, it will thrive the better. It is propagated by Layers; but they are generally two Years before they get Root, so that, at present, it is very rare in England. The finest Shrubs of this Kind, which I have yet seen, are in the curious Gardens of his Grace the Duke of Argyll, at Whitton near Hounslow, where they thrive as well as in their native Country. These do not perfect their Seeds in this Country; and the Seeds which have been brought from America, have very rarely succeeded; being light and chaffy, they soon lose their growing Quality: but if the Shrub can be once propagated, so as to become plenty in England, it will be an additional Beauty to the Gardens, as

it flowers at a Season when few other Sorts are in Beauty.

CLIFFORTIA.

The Characters are;

It is Male and Female in different Plants: the Flowers of the Male Plants have a three-leav'd Empalement, but no Petals: the Stamina, which are very numerous, occupy the whole Empalement: the Female Flowers have no Petals, but a three-leav'd Empalement; in the middle of which the Pointal is situated, supporting two Styles, and afterward becomes an oblong Capsule, opening in two Cells, each having a single taper Seed.

The Species are;

1. CLIFFORTIA *foliis dentatis*, mas. Lin. Hort. Cliff. Male Cliffortia, with indented Leaves. This Plant has been known by the Title of *Camphorata Capensis*, *eryngii folio*: as also that of *Arbuscula Afra*, *folio ilicis*, *caulem amplexo*, *rigido*.

2. CLIFFORTIA *foliis lanceolatis integerrimis*, *fœmina*. Lin. Hort. Cliff. Female Cliffortia, with intire Leaves.

3. CLIFFORTIA *foliis ternatis, pilosis*, *fœmina*. Lin. Hort. Cliff. Female Cliffortia, with narrow hairy Leaves.

4. CLIFFORTIA *foliis ternatis foliolo intermedio tridentato*. Flor. Leyd. Three-leav'd Cliffortia, with the middle Leaf divided into three Parts.

The first Sort has been long an Inhabitant in several curious Gardens in England. This Plant is a Native of the Cape of Good Hope, where also most of the other Sorts are supposed to grow: but these are at present very rare in England: they are all of them preserved in Green-houses in Winter, and placed abroad in Summer, with other Exotic Plants of the same Country, and make an agreeable Variety when they are intermixed. The first Sort is so hardy as to live in the open Air

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Air in very mild Winters, when it has been planted in a warm Border, near a Wall: but in severe Frost they are destroyed; therefore some Plants should be housed in Winter, to preserve the Kinds. This Sort will grow to the Height of five or six Feet, if the Branches are trained up to Stakes; otherwise they will fall to the Ground, and appear un-ightly: for the Branches are so slender as not to be able to support themselves. The Leaves of this Sort closely embrace the Stalks, and are indented on their Edges, which end in sharp Points. These Leaves continue green all the Year; in which the Beauty of the Plant consists, for the Flowers have no Beauty.

This may be easily propagated by Cuttings, during any of the Summer-months. They may be planted in a shady Border, and supplied with Water in dry Weather; and in two Months they will have taken Root, and may afterward be taken up and potted, or planted in a warm Border, where they are to remain. Those which are planted in Pots, must be housed at the same time when Myrtles, and other hardy Green-house Plants, are put into the House; and should be placed where they may have as much free Air as possible in mild Weather; for they only want Protection in severe Frost.

The other Sorts may be treated in the same manner; but these do not so easily take Root from Cuttings; so may be propagated by laying down their tender Branches in May; which, if duly watered, will have taken Root by the Middle of September; when they may be taken off, and each planted into a separate Pot; and should be placed in a shady Situation, until they have taken new Root: after which they may be placed in a sheltered Situa-

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tion, until they are removed into the Green-house.

CLINOPODIUM, Field-basil.

The Characters are;

It is a Plant with a labiated Flower, consisting of one Leaf, whose upper Lip is upright, roundish, and generally split in two; but the Beard, or under Lip, is divided into three Segments: these Flowers are disposed in Whorles round the Stalks, and are succeeded by oblong Seeds: to which Notes should be added, The Empalement is cut into several Parts.

The Species are;

1. CLINOPODIUM *origano simile elatius, majore flore.* C. B. The taller Field-basil, with a large Flower resembling Bastard-marjoram.

2. CLINOPODIUM *origano simile, flore albo.* C. B. Field-basil, with a white Flower resembling Bastard-marjoram.

3. CLINOPODIUM *arvense, ocymifacie.* C. B. Wild Field-basil, resembling Basil.

4. CLINOPODIUM *origano simile humilius alterum, minori folio.* C. B. P. Lower Field-basil, resembling Pot-marjoram.

5. CLINOPODIUM *Austriacum.* Clus. Hist. Austrian Field-basil.

6. CLINOPODIUM *Romanum, majoranæ folio.* Bocc. Mus. Roman Field-basil, with a Marjoram-leaf.

7. CLINOPODIUM *menthæ folio, incanum & odoratum.* Hort. Elth. American Field-basil, with an hoary Leaf like Mint, smelling sweet.

8. CLINOPODIUM *foliis linearibus acuminatis, capitulis terminatricibus.* Lin. Hort. Cliff. American Field-basil, with narrow-pointed Leaves, and the Flowers collected in Heads at the Top of the Shoots.

9. CLINOPODIUM *foliis lanceolatis, capitulis terminatricibus.* Lin. Hort. Cliff. Field-basil with a spear-shap'd Leaf, and the Flowers collected

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lected in Heads on the Top of the Branches.

The first Sort grows wild upon dry chalky Hills in divers Parts of *England*. The second is a Variety of the first, from which it only differs in the Colour of the Flower. These Sorts abide many Years, and may be propagated in a Garden, by either sowing their Seeds, or parting their Roots; the latter of which is the most expeditious Method, as also the surest Way to preserve the white-flowering Kind in its Colour, because it may return back to the purple Kind, from which it at first degenerated. These Plants should have a light Soil, and an open Situation, in which they will thrive exceedingly.

The third Sort is also found upon very stony or gravelly Hills in several Parts of *England*; but this, being a biennial Plant, is only propagated by Seeds, which should be sown soon after they are ripe, otherwise they will hardly grow: this must have a very poor stony Soil, in which it chiefly delights.

The fourth Sort is an annual Plant, which was brought from the *Alps*: this should be sown in the Spring of the Year, in almost any Soil; and being a very good-natur'd Plant, will thrive in any Part of the Garden.

The fifth Sort grows wild in *Austria*; from whence the Seeds have been sent, which grow very well with us; and it is hardy enough to resist our Cold in the open Air, if planted in a dry Soil.

The sixth Sort is a biennial Plant: this is also hardy, and will thrive in the open Air: the Seeds may be sown in *April* upon a Bed of light Earth, and the Plants will come up, and begin to flower in *July*; and there will be a Continuation of Flow-

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ers until the Frost comes on in *Autumn*: the Seeds of this Sort will ripen in *August* and *September*.

The seventh, eighth, and ninth Sorts are Natives of the Northern Parts of *America*; from whence their Seeds have been brought, and the Plants are preserved in some curious Gardens, more for Variety than Use or Beauty: the eighth Sort is commonly called *Peny-royal* by the Inhabitants of *America*, from the Scent of the whole Plant, which is very like that of *Peny-royal*.

These are all hardy enough to live in the open Air, provided they have a sheltered Situation; and may be propagated either by Seeds, parting their Roots, or by Cuttings, which easily take Root in any of the Summer-months: they generally decay to the Ground every Winter, and rise again the following Spring.

The other Species, which have been ranged in this Genus, are referred to *Monarda* and *Ziziphora*.

CLITORIA. Vide Ternatea.

CLUSIA, The Balsam-tree.

The Characters are;

The Empalement of the Flower consists of five roundish concave Leaves, which spread open: the Flower has five concave Petals, which expand in form of a Rose: from the Empalement arises the Pointal, supporting a globular Nectarium; which is perforated at the Top: in this is included the Germen, which afterward becomes an oval Fruit, divided into several Parts longitudinally, having oval Seeds surrounded with a Pulp, and fixed to an angular Column.

The Species are;

1. *CLUSIA flore albo, fructu coccineo.* Plum. Nov. Gen. Balsam-tree with a white Flower, and a scarlet Fruit.

2. *CLUSIA*

2. *CLUSIA flore roseo, major, fructu subviridi.* Plum. Nov. Gen. Balsam-tree with a large Rose-flower, and a greenish Fruit.

3. *CLUSIA flore roseo, minor, fructu flavescente.* Plum. Nov. Gen. Balsam-tree with a small Rose-flower, and a yellowish Fruit.

4. *CLUSIA alia minor, flore albo, fructu virescente.* Plum. Nov. Gen. Balsam-tree with a small white Flower, and a green Fruit.

The first and fourth Sorts are pretty common in the *British* Islands of *America*, where they grow to the Height of twenty Feet, and shoot out many Branches on every Side, which are furnished with thick round succulent Leaves placed opposite by Pairs: the Flowers are produced at the Ends of the Branches, each having a thick succulent Cover: these Flowers are of different Colours in different Plants, some being red, others yellow, some white, and some green: after the Flowers are past, they are succeeded by oval Fruit, which are also of different Colours in different Plants: from every Part of these Trees exudes a sort of Turpentine, which is called in the *West-Indies* Hog-gum; because they say, when any of the wild Hogs are wounded, they repair to these Trees, and rub their wounded Parts against the Stems of these Trees, till they have anointed themselves with this Turpentine, which heals their Wounds: the Turpentine of these Trees is also greatly recommended for the Cure of *Sciatica's*, by spreading it on a Cloth, and applying it as a Plaster to the Part affected.

These Plants are at present very rare in *Europe*: there were some Years ago some fine Plants in the Garden of Mr. Parker, near *Croyden* in *Surry*; these were brought over

growing in Tubs of Earth from *Barbados*, which is the best Method of procuring them; for the Seeds seldom succeed; and the young Plants grow so slowly, as not to make any Figure in some Years; but in the bringing over the Plants, great Care should be had, that they do not receive much Wet; for as these Plants have very succulent Stems, Moisture will cause them to rot.

These Plants are tender; so must be constantly kept in the Stove, otherwise they will not live thro' the Winter in *England*: they must also be watered very sparingly, especially in Winter; for these Plants naturally grow in those Parts of the Islands, where it seldom rains; therefore they can't bear much Moisture.

They may be propagated by Cuttings, which must be laid to dry when they are cut off from the Plants for ten Days or a Fortnight, that the wounded Part may be healed over, otherwise they will rot: when the Cuttings are planted, the Pots should be plunged into an Hot-bed of Tanners Bark, and now-and-then gently refreshed with Water: the best time for planting these Cuttings is in *July*, that they may be well rooted before the cold Weather comes on in Autumn. In Winter these Plants may be placed upon Stands in the dry Stove; but if in Summer they are plunged into the Tan-bed, they will make great Progress, and their Leaves will be large, in which consists the great Beauty of these Plants.

CLUTIA.

The Characters are;

It is Male and Female in different Plants: the Flowers of the Male have five heart-shaped Petals, which expand: the Empalement consists of five Leaves, which are concave: in the Centre are placed five Stamina, without

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out any Pointal: the Female Flowers have the same Structure as the Male, but have no Stamina; and in the Centre is placed the Pointal, supporting a Style, which is divided at the Top into two or three Parts, which are reflex'd: the Pointal afterward becomes a globular Fruit, having six Furrows; and is divided into three Cells, each inclosing a single Seed.

The Species are;

1. *CLUTIA foliis petiolatis*. Lin. Hort. Cliff. Mas & Fœmina. Clutia with Footstalks to the Leaves, which are Male and Female in different Plants.

2. *CLUTIA foliis sessilibus*. Lin. Hort. Cliff. Mas & Fœmina. Clutia with Leaves having no Footstalks.

These Plants are Natives of *Africa*, from whence they were brought to some curious Gardens in *Holland*, and have since been communicated to most of the curious Gardens in *Europe*. The first Sort with Female Flowers has been long an Inhabitant of some curious Gardens in *England*; but that with Male Flowers I have lately received, with many other rare Plants, from my learned Friend Dr. Job Baster, F. R. S. of *Zirkzee* in *Holland*.

The second Sort has also been some Years in the *English* Gardens, and was ranged in the Genus of *Alternoides*, under which Title it has been well figured by Dr. *Commelin* in the *Hortus Amstelodamensis*; but we have not the two Sorts of this in *England* at present: as far as I have been able to learn, that which is in the *English* Gardens is the Female.

These Plants are easily propagated by Cuttings during any of the Summer-months. If the Cuttings are planted in small Pots, and plunged into a very moderate Hot-bed, and shaded from the Heat of the Sun in

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the Middle of the Day, they will soon take Root, and should then be inur'd to the open Air, otherwise they will draw up very weak: and afterward these Plants may be each put into a separate small Pot, and placed in a sheltered Situation, where they may remain until the Middle of *October*, or later, if the Weather continues mild, when they should be removed into the Green-house, and placed where they may have the free Air in mild Weather; for they only require to be protected from Frost, therefore need no Warmth in Winter; but if the Greenhouse is shut up too close, or the Plants are much shaded by others, the tender Shoots are subject to grow mouldy, which destroys more of these Plants than the Cold: in Summer they must be placed abroad, in a sheltered Situation, with other hardy Exotic Plants.

As these Plants are always green, they make a Variety in the Greenhouse during the Winter-season, by their different Leaves; but their Flowers have no Beauty.

CLYMENUM, Chichling-vetch.

The Characters are;

The Stalks, Flowers, and Fruits of this Plant are like those of *Lathyrus*; but the Leaves consist of many Conjugations plac'd on a Midrib, which ends in a Tendril.

The Species are;

1. *CLYMENUM Hispanicum*, flore vario, siliqua plana. Tourn. Spanish Chichling-vetch, with a variable Flower, and a plain Pod.

2. *CLYMENUM Hispanicum*, flore vario, siliqua articulata. Tourn. Spanish Chichling-vetch, with a variable Flower, and a jointed Pod.

3. *CLYMENUM Bithynicum*, siliqua singulari, flore minore. Jussieu. Bithynian Chichling-vetch, with a single Pod, and smaller Flower.

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4. CLYMENUM *Parifense*, flore *cæruleo*. Tourn. Common Chichling-vetch, with a blue Flower.

5. CLYMENUM *Græcum*, flore *maximo fingulari*. T. Cor. Greek Chichling-vetch, with a large single Flower.

The first, second, third, and fifth Sorts are Annuals, and must be sown every Year (as is practised for the Sweet-pea): if they are sown in *August*, in a warm Border, they will stand through the Winter, and flower early in the succeeding Spring, by which Method you may be sure to obtain good Seeds; whereas those which are sown in the Spring are many times destroyed by the Rains in Autumn before their Seeds are perfected. These Plants delight in a dry Soil, and an open Situation; for if they are overhung by Trees, &c. they seldom come to any Perfection.

Those Plants which were sown in Autumn, will begin to flower in *May*. and continue to produce new Flowers till *July*; about which time the Seeds of their early Flowers will be perfected. Their Flowers are in Shape like those of the Pea; but being of variable Colours, make a pretty Variety in a Garden; and if the Plants are supported with Sticks, they may be kept in a small Compass. The fourth Sort hath a perennial Root, which multiplies very fast, soon over-running a Spot of Ground, and should therefore be kept in a Pot where the Roots will be confin'd, and thereby the Plant caus'd to produce a greater Quantity of Flowers than it would naturally do, if its Roots had full Liberty.

CLYPEOLA, Treacle-mustard.

The Characters are;

The Empalement of the Flower consists of four oval emcave Leaves: the Flower hath four Leaves, which

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are placed in form of a Cross: in the Centre of the Flower is situated the Pointal, attended by six Stamina, two of these being shorter than the rest: the Pointal afterward becomes a flat round Fruit, shaped like a Buckler, having one or two Cells, in each of which are included one or two flat Seeds.

The Species are;

1. CLYPEOLA *filiculis unilocularibus & monospermis*. Lin. Hort. Cliff. The smallest spiked Treacle-mustard, whose Pods have one Cell, including a single Seed.

2. CLYPEOLA *filiculis bilocularibus tetraspermis*. Lin. Hort. Cliff. Treacle-mustard, whose Pods have two Cells, and contain four Seeds.

3. CLYPEOLA *filiculis unilocularibus echinatis*. Eastern Treacle-mustard, whose Pods have one Cell, and are prickly.

This Genus of Plants was named *Jonthlaspi* by *Fabius Columna*, and the same was continued by Doctor *Tournefort*, and other later Writers on Botany before Dr. *Linnaeus*, who has altered the Name to this of *Clypeola*, the other Name being a Compound.

The second Sort was by Doctor *Tournefort* ranged with the Alysson or Madwort; but agreeing in the Characters of its Flower with the first, Dr. *Linnaeus* has removed it hither, though it differs in the Fructification from it.

All these are low annual Plants, whose Branches trail on the Ground; therefore make but little Figure in a Garden: these Seeds may be sown on a Bed of common Earth, either in the Spring or Autumn: those which are sown in Autumn will grow much larger, and ripen their Seeds more surely, than the Spring-plants; and, if their Seeds are permitted to scatter, the Plants will come up, and require

require no other Care but to be kept clear from Weeds.

CNEORUM, Widow-wail.

The Characters are;

The Empalement of the Flower is small, and divided into three Parts, and is permanent: the Flower consists of three oblong narrow Petals, which soon fall away: in the Centre is situated the Pointal, attended by three Stamina, which are shorter than the Petals: the Pointal afterward changes to a roundish dry Berry, having three Cells, each inclosing a single Seed.

We have but one Species of this Plant; viz.

CNEORUM. Lin. Hort. Cliff. The Widow-wail.

This Plant was titled *Chamaelæa tricoccus* by Caspar Bauhin, and others; but being a compound Name, Dr. Linnæus has altered it to this of *Cneorum*, which is an old Name that has been applied to two or three different Plants by Matthiolum, and others.

This was formerly preserved in Green-houses, and thought too tender to live in the open Air in England; but of late Years People have planted it in the full Ground, where it resists the Cold of our ordinary Winters very well, and is seldom injured but by extreme hard Frosts; nor do these kill the Plants which grow upon dry, rocky, or rubbishing Soils, where their Shoots are generally short and firm; but in moist rich Ground, where the Shoots are more luxuriant, they are sometimes injured.

It is propagated by Seeds, which should be sown in Autumn soon after they are ripe, and then the Plants will come up the following Spring; whereas those which are not sown till the Spring, will remain a Year in the Ground, and often miscarry: these Seeds may be sown in a Bed of

common Earth, covering them half an Inch deep, and will require no other Care but to keep the Plants clear from Weeds the following Summer; and the Autumn following the Plants may be transplanted where they are to remain, which should be on a dry Soil, and sheltered Situation: these Plants never rise above two and an half or three Feet high, but shoot out many lateral Branches, so as to form a thick Bush: the Leaves are long, narrow, and of a deep-green Colour, and remain the whole Year; which renders this Plant worthy of a Place among other evergreen Shrubs.

CNICUS.

The Characters are;

It hath fuscous Flowers, consisting of many Florets, which are multifid, and stand upon the Embryo: the Florets are inclos'd in a scaly Cup surrounded with Leaves.

The Species are;

1. **CNICUS sylvestris hirsutior**, five *Carduus Benedictus. C. B.* The Blessed-thistle, vulgo.

2. **CNICUS atrachylis lutea diæus. H. L.** The yellow Distaff-thistle, vulgo.

3. **CNICUS perennis cæruleus Tingitanus. H. L.** Tangier perennial blue Distaff-thistle.

4. **CNICUS Creticus, atrachylidis folio & facie, flore leucophæo. T. Cor.** Candia Distaff-thistle, with whitish Flowers.

5. **CNICUS Hispanicus arboreus foetidissimus. Tourn.** Stinking Spanish Tree Distaff-thistle.

6. **CNICUS pratensis, acanthi folio, flore flavescente. Tourn.** Meadow Distaff-thistle, with a Bears-breech-leaf, and a yellowish Flower.

7. **CNICUS cæruleus humilis Montis Lupi. H. L. B.** Low blue Distaff-thistle of Mount Lupus.

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8. *CNICUS exiguus, capite cancellato, semine tomentoso. Inst.* Small Distaff-thistle, whose Head is covered with a netted Hood, and the Seeds are downy.

9. *CNICUS polycephalos canescens, aculeis flavescens munitus. Inst.* R. H. Many-headed Distaff-thistle, armed with yellow Spines.

The Blessed-thistle is cultivated in Gardens for the Herb, which is dried and preserved for medicinal Uses; but of late Years it hath been in less Use than formerly; for which Reason there is but little of it now propagated; though it is by some eminent Physicians held in great Repute.

This, being an annual Plant, is only rais'd by Seeds, which should be sown in Autumn, or very early in the Spring: when the Plants are come up, they should be either transplanted, or hoed out to about nine or ten Inches Distance from each other, that the Plants may have room to spread, observing also to keep them clear from Weeds; and when the Plants are in full Flower, they should be cut off, and laid to dry in a shady Place; and after they are thoroughly dry, they may be tied up into Bundles, and hung up in a dry Room upon Strings in Rows, so that the Air may pass freely between them, which will prevent their growing mouldy or rotting, which they are very subject to, if laid too close, or kept in a moist Place.

The second Sort is also ranged in the Catalogue of Simples used in Medicine; but at present it is wholly rejected: this and the fourth Sort are annual Plants, which may be sown on a Bed of common Earth in the Spring, where they are to remain; for they do not bear transplanting well: the Plants should be left a Foot and an half asunder, espe-

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cially the fourth; for this will grow four Feet high, and spread wide: these are of the Thistle-kind; so are seldom preserved but by Botanists.

The third and seventh Sorts are abiding Plants, and do not ramble: the third commonly grows about two Feet high; but the seventh seldom rises above six or eight Inches: these two Sorts seldom perfect their Seeds in *England*; so are increased by parting their Roots every third Year in Autumn: they should have a dry Soil, and a sheltered Situation.

The sixth Sort is also perennial; but is a tall Plant, and, having but little Beauty, rarely is admitted into Gardens: this ripens Seeds very well in *England*, which will grow in almost any Soil or Situation.

The fifth Sort grows to the Height of eight or nine Feet, and becomes shrubby: but unless this is planted in a very dry rubbishing Soil, and a warm Situation, it will not live through the Winter in *England*, nor will it ripen Seeds in this Country.

The ninth is an annual Plant, which usually grows about three Feet high, and is armed in a singular manner with yellow Spines: this will ripen Seeds the Autumn after sowing, and will require little Culture.

The eighth Sort seldom rises more than six Inches high: it is an annual Plant, which rarely ripens Seeds in *England*: there is no other Beauty in it than the fine netted Cover to the Heads.

COA. We have no *English* Name for this Plant.

The Characters are;

It hath a globular bell-shaped Flower, consisting of one Leaf, from whose Cup arises a multifold Pointal, fixed like a Nail in the hinder Part of the Flower; which afterward becomes a Fruit,

Fruit, composed of three membranous Seed-vessels, which are compressed, bi-valve, and divided into two Cells, in which are contained oblong winged Seeds.

We have but one Species of this Plant; which is,

Coa scandens, fructu trigemino sub-rotundo. Plum. Climbing Coa, with a roundish Fruit, which opens into three Parts.

This Plant was observed by Father Plumier, in the French Islands in America; and hath been since found in great Plenty in the Spanish Settlements in America, particularly about Campechy, from whence the Seeds have been sent by Mr. Robert Millar, Surgeon, to some curious Persons in this Country, who have raised several of the Plants.

This Plant is propagated by Seeds, which must be obtained from the Places where it naturally grows, which should be sown early in the Spring, in small Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark: the Plants will begin to appear in six Weeks or two Months after sowing.

When the Plants are about two Inches high, they should be carefully transplanted each into a separate Pot filled with fresh light Earth, and plunged into the Hot-bed again. During the Summer-season these Plants must be frequently refreshed with Water; and when their Roots have filled the Pots in which they were first planted, they should be shaken out of them, and their Roots pared round, and then put into Pots a little larger than the former, which must be filled with fresh light rich Earth, and then plunged again into the Hot-bed; for these Plants will not live in the open Air in this Country: so that when they are grown too large to remain under the Glasses

of the Hot-bed, they should be removed into the Bark-stove, where they should be placed with the tenderest Exotics, and treated with great Care. This Plant commonly rises to the Height of five or six Feet; but, being a trailing Plant, must be supported by a Stake; otherwise it will trail on the neighbouring Plants in the Stove, and injure them. It is ever-green, and the Leaves being of a shining green Colour, it makes a pretty Variety amongst other tender Exotic Plants.

COAST-MARY. *Vide* Balsamita.

COCCIGRIA. *Vide* Cotinus.

COCCUS, The Cocoa-nut, or Coco-nut.

The Characters are;

There are Male and Female Flowers in the same Plant: these are included in one common Sheath or Cover: the Male Flowers are divided into three Parts, having six Stamina in each: the Female Flowers are slightly cut into three Parts, having an oval Pointal situated in the Centre, which afterward becomes a large angular Nut included in a tough fibrous Cover.

We have but one Species of this Plant; viz.

Coccus frondibus pinnatis, foliolis ensiformibus, petiolis margine villosis. Lin. Hort. Cliff. The Cocoa-nut-tree.

This was formerly called *Palma Indica coccifera angulosa*; but differing in its Characters from the common Palm-tree, Dr. Linnaeus has constituted the Genus under this Name of *Coccus*.

There are some other Varieties of this Tree, which are no otherwise known than by the Fruit, which are frequently cast on Shore upon the several Islands of America, and some of them have been driven so far as

Ireland and *Scotland*, where many of the Nuts have been thrown up by the Sea, which have been taken up by several curious Persons; but the Place of their Growth is not as yet known, so far as I can learn.

The Cocoa-nut is propagated by planting the Nuts, which, in six Weeks, or two Months after, will come up, provided they are fresh, and thoroughly ripe, which is what few of them are which are brought to *England*; for they always gather them before they are ripe, that they may keep during their Passage: so that the best way to bring the Nuts to *England* for planting, would be to take such of them as are fully ripe, and put them up in dry Sand in a Tub, where the Vermin may not come to them; and these will often sprout in their Passage, which will be an Advantage, because then they may be immediately planted in Pots of Earth, and plunged into the Bark-bed: but if the Nuts have not sprouted in their Passage, the best Method to treat them is, to take off their outward Cover to the hard Shell, then to bury them in an Hot-bed of Tanners Bark, observing to lay them on one Side, that the Moisture may not enter the Hole at the End of the Nut from whence the Sprout is to come, lest it should be thereby rotted: if the Nuts are good, they will begin to shoot in a Month's time, when they should be taken up, and planted in Pots filled with good Earth, and plunged into the Hot-bed of Tanners Bark.

These Plants in the warmest Islands of *America* make considerable Progress in their Growth; in which Places there are some Trees of very great Magnitude: but in *Europe* this Plant is of a much slower Growth, being many Years before it advances

to any considerable Height; but, as the young Leaves of these Plants are pretty large, they make a good Appearance amongst other tender Exotic Plants, in one or two Years time; so are by some Persons kept in Stoves for Variety; tho' we can never hope to see their Fruit produced in *England*; for they do not bear, until the Trees are grown to a large Size; and, as they will not live thro' the Winter, unless they are preserved in the warmest Stoves, these are not high enough to contain the Plants when grown to a Size for fruiting.

The Cocoa-nut is cultivated in most of the inhabited Parts of the *East* and *West-Indies*; but it is supposed a Native of the *Maldives*, and the desert Islands in the *East-Indies*: from whence it is supposed it hath been transported to all the warm Parts of *America*; for it is not found in any of the inland Parts, nor any-where far distant from Settlements. It is one of the most useful Trees to the Inhabitants of *America*, who have many of their common Necessaries of Life from it. The Bark of the Nut is made into Cordage, the Shell of it into Drinking-bowls; the Kernel of the Nut affords them a wholesome Food, and the Milk contained in the Shell a cooling Liquor. The Leaves of the Trees are used for thatching their Houses, and are also wrought into Baskets, and most other Things which are made of Osiers in *Europe*.

COCHLEARIA, Spoonwort, or Scurvy-grass.

The Characters are;

The Flower consists of four Leaves, which are disposed in form of a Cross: from the Flower-cup arises the Pointal, which becomes an almost globular Fruit, divided into two Cells by an intermediate

intermediate Partition, to which the Valves adhere on both Sides, and are furnish'd with many round Seeds.

The Species are;

1. COCHLEARIA folio subrotundo. C. B. Scurvy-grafs with a roundish Leaf, or common Scurvy-grafs.
2. COCHLEARIA folio sinuato. C. B. Scurvy-grafs with a sinuated Leaf, or Sea Scurvy-grafs, vulgo.
3. COCHLEARIA minima, ex montibus Walliæ. Sher. Boerb. Ind. The least Scurvy-grafs, from the Welsh Mountains.
4. COCHLEARIA folio cubitali. Tourn. Horse-radish, vulgo.
5. COCHLEARIA Armorica. H. R. Par. Ivy-leav'd Scurvy-grafs.
6. COCHLEARIA Danica procumbens. Mor. Hist. Danish trailing Scurvy-grafs.
7. COCHLEARIA altissima, glastifolia. Inst. R. H. Tallest Scurvy-grafs, with a Leaf of Woad.

The first of these Species is propagated in Gardens for medicinal Uses: this is done by sowing the Seeds in July, soon after they are ripe, in a moist shady Spot of Ground; and when the Plants are come up, they should be thinned, so as to be left at about four Inches Distance each Way. The Plants that are taken out may be transplanted into other shady Borders, if you have Occasion for them; otherwise they may be hoed out, as is practised for Onions, Carrots, &c.; and at the same time all the Weeds may be hoed down, so as to clear the Plants intirely from them, that they may have room to grow strong. In the Spring these Plants will be fit for Use; and those that are suffered to remain will run up to Seed in May, and perfect their Seeds in July.

If this Plant is sown in the Spring, the Seeds seldom grow well;

therefore the best time is soon after they are ripe: the Plants rarely live after producing Seeds; so that it should be sown every Year, to have it for Use.

The Sea Scurvy-grafs is also used in Medicine; but this grows in the salt Marshes in Kent and Essex, where the salt Water overflows it almost every Tide; and can rarely be made to grow in a Garden, or at least to last longer there than one Year: but it being easily gathered in the Places before-mention'd, the Markets are supply'd from thence by the Herb-women, who make it their Business to gather this Herb.

The little Welsh Scurvy-grafs is a biennial Plant, and may be preserved in a Garden, if planted in a strong Soil, and a shady Situation. This is preserved in curious Gardens of Plants; but is not of any Use in Medicine; though it is by far the warmest and most pungent of all the Sorts. This Plant grows plentifully in Muscovy, as also in Davis's Streights.

The fifth Sort is sometimes found wild in England: this Sort is a low annual Plant, which if permitted to scatter its Seeds, the Plants will come up, and require no other Care but to clear them from Weeds.

The seventh Sort is a biennial Plant, which usually grows about a Foot and an half high. This may be propagated by Seeds, as the common Sort; and, if sown in Autumn, will more certainly succeed than in the Spring.

The Horse-radish is propagated by Cuttings or Buds from the Sides of the old Roots. The best Season for this Work is in October or February; the former for dry Lands, and the latter for moist. The manner of doing it is as follows: Provide yourself with a good Quantity

of Off-sets, which should have a Bud upon their Crowns; but it matters not how short they are: therefore the Upper-part of the Roots which are taken up for Use, should be cut off about two Inches long with the Bud to it, which is esteemed the best for planting. Then make a Trench ten Inches deep, in which you should place the Off-sets at about four or five Inches Distance each Way, with the Bud upward, covering them up with the Mould that was taken out of the Trench: then proceed to a second Trench in like manner, and continue the same until the whole Spot of Ground is planted. After this, level the Surface of the Ground even, observing to keep it clear from Weeds, until the Plants are so far advanced, as to be strong enough to overbear and keep them down. With this Management, the Roots of the Horse radish will be long and strait, and free from small lateral Roots; and the second Year after planting will be fit for Use. 'Tis true, they may be taken up the first Year; but then the Roots will be but slender; therefore it is the better way to let them remain until the second Year. The Ground in which this is planted ought to be very rich, otherwise the Roots will make but small Progress.

CODLIN-TREE. *Vide* Malus.

COFFEE-TREE. *Vide* Jasminum.

COIX, Job's-tears.

The Characters are;

It hath Male and Female Flowers on the same Plant: the Male Flowers are produced in a loose Spike, each being inclosed in a two-leav'd Husk, which is prickly: these have three slender Stamina, supporting oblong four-cornered Summits: the Female Flowers are generally produced at the Bottom of the Spike of Male Flowers;

these have a two-leav'd prickly Covering; and in the Centre is situated the Pointal, which afterward becomes one naked hard Seed.

The Species are;

1. COIX *feminibus ovatis*. Lin. Hort. Cliff. Common Job's-tears.

2. COIX *latiore folio*. Broad-leav'd Job's-tears.

3. COIX *altissima, culmo ramoso*. Tallest Job's-tears, with a branching Stalk.

These are Sorts of Grain which are cultivated in some of the hot Countries; but are rarely eaten, except in great Scarcity of other Corn; when the poorer Sort of People make a coarse Sort of Bread with the Flour of this. In Portugal, and some other Roman Catholic Countries, the first Sort is cultivated for the Seeds; which they string, and use as Beads: these Seeds are oblong, smooth, hard, and of an Ash-colour, somewhat resembling the Seeds of Gromwel; but are six times larger.

The first and second Sorts are Natives of the *Levant*, from whence the Seeds have been brought; but the third Sort grows in the warm Parts of *America*: this will live two Years; but the other are both annual Plants.

These are seldom propagated in England, the Seasons here being generally too cold to ripen the Seeds: therefore whoever has an Inclination to have these Plants, must sow the Seeds early in the Spring, upon a gentle Hot-bed; and in May the Plants should be transplanted into a warm Border: where, if the Season proves favourable, they will perfect their Seeds.

The third Sort will grow to the Height of seven or eight Feet; and the Stems become hard, like the Reed or Indian Corn: these branch out, and produce

produce several Spikes of Flowers: but this Sort will not live in the open Air in *England*, therefore should be placed in the Bark-stove; where it will live thro' the Winter, and produce ripe Seeds the second Year; and may be continued longer, if desired.

COLCHICUM, Meadow-saffron.

The Characters are;

It hath a Flower consisting of one Leaf, which is shaped like a Crocus, rising from the Root in form of a small Tube, and is widened gradually into six Segments: the Pointal rises from the Bottom of the Flower, ending in small Threads, and turns to an oblong triangular Fruit, divided into three Cells, which are full of roundish Seeds: it hath also a solid bulbous Root, which is cover'd with a membranous Skin.

The Species are;

1. COLCHICUM *commune*. C. B. Common Meadow-saffron.

2. COLCHICUM *Anglicum album*. Park. English white Meadow-saffron.

3. COLCHICUM *pleno flore*. C. B. The double-flowered Meadow-saffron.

4. COLCHICUM *floribus fritillariæ instar tessellatis, foliis planis*. M. H. Meadow-saffron with Flowers chequer'd like those of the Fritillaria, and smooth Leaves.

5. COLCHICUM *Chionense, floribus fritillariæ instar tessellatis, foliis undulatis*. M. H. Meadow-saffron with chequer'd Flowers, and wav'd Leaves, commonly call'd, *Colchicum Chio*.

6. COLCHICUM *latifolium variegatum*. C. B. Broad strip'd-leav'd Meadow-saffron.

7. COLCHICUM *vernum Hispanicum*. C. B. Spring-flowering Meadow-saffron.

8. COLCHICUM *candidum multiflorum*. C. B. Many-flower'd white Meadow-saffron.

The first of these Species is found in moist Meadows in several Parts of *England*, particularly in *Warwickshire*. The second is a Variety of the first, from which it only differs in the Colour of the Flower. The third Sort also originally came from the first; but is preserv'd in Gardens, for the Doubtfulness of its Flowers. The fourth Sort is a Stranger to our Island, and is suppos'd to have been brought from the *Levant*, with the fifth Sort; which differs from the fourth, in having the green Leaves very much waved on the Edges. The Root of one of these two Species is thought to be the *Hermodyctyl* of the Shops. The seventh Sort hath fine broad variegated green Leaves, for which it is greatly esteem'd. The eighth Sort is valuable for producing its Flowers early in the Spring. This is by Dr. *Linnaeus* placed with *Bulbocodium*.

These are all very pretty Varieties for a Flower-garden, most of them producing their Flowers in Autumn, when few other Plants are in Beauty. The Flowers come up, and are blown, some time before the green Leaves appear; and are therefore, by some, called Naked Ladies. The green Leaves come up in Winter, and in Spring are extended to a great Length: in *May* the green Leaves begin to decay; soon after which time, is the proper Season to transplant their Roots; for if they are suffered to remain in the Ground till *August*, they will send forth fresh Fibres; after which time it will be too late to remove them. The Roots may be kept above-ground until the Middle of *August*; at which time, if they are not planted, they will

will produce their Flowers as they lie out of the Ground: but this will greatly weaken their Roots. The manner of planting their Roots being the same as Tulips, &c. I shall forbear mentioning it here, referring the Reader to that Article: and also for sowing the Seeds, by which means new Varieties may be obtained, I shall refer to the Article of *Xiphion*; where will be proper Directions for this Work.

COLEWORTS. *Vide Brasica.*

COLETTA VEETLA.

This Plant was first titled, by Dr. *Linnaeus*, *Prionitis*, in the Catalogue of Mr. *Clifford's* Garden; since which, it has been removed to Father *Plumier's* Genus of *Barleria*; but as it is yet uncertain whether the Characters of this Plant will agree with those which *Plumier* has engraven to the *Barleria*, I have chosen to continue the Name to this Plant, which is fixed to it in the *Hortus Malabaricus*, where it is well figured and described; and it is from this Figure, and the Description, that Dr. *Linnaeus* has drawn the Characters; for I have not heard, that any of the Plants have produced Flowers in Europe.

In the native Places of its Growth, which is on the Coast of *Malabar*, it seldom rises more than four or five Feet high: the Stems are hard, but not lignous; more like those of the Butchers-broom, than any other Plant. The lateral Branches are produced by Pairs opposite, and the Leaves come out in the same Order. At the Wings of the Leaves are produced long Spines, at some Places, by Pairs opposite; and at others, there are four standing in form of a Cross. The Flowers are also produced from the Wings of the Leaves, after the manner of the verticillate

Plants. These Flowers are tubulous, and of an irregular Figure, being cut into five unequal Segments at the Top; they are of a yellow Colour, inclining to red toward their Upper-parts.

This Plant requires a Stove in Winter, otherwise it cannot be preserved in this Country; but a moderate Warmth will agree better with it, than if it is placed in a greater Heat. The Soil must be light and sandy, otherwise it will not thrive. It is propagated by laying down of the tender Branches, which, if duly watered, will take Root in one Year, when they may be separated from the old Plants, and each put into a separate Pot. The best time for performing this Work is in April, just before the Plants begin to shoot; which is also the proper Season for laying down the Branches.

COLOCASIA. *Vide Arum.*

COLLINSONIA.

The Characters are;

It hath a labiated Flower of one Leaf, having a cylindrical Tube, which is not equal at the Brim, where it is cut into four Parts, the middle Segment being cut into many small hairy Segments, which are stretch'd out beyond the Tube: in the Middle of the Flower are situated two long Stamina, which are erect: the Pointal, which is situated in the Empalement, supports a long Stylus, which is broad and inclined: when the Flower is past, there appear the Rudiments of four Seeds, but seldom above two of them are perfect.

This Plant was so named by Dr. *Dillenius*, who was Professor of Botany at Oxford, in Honour to Mr. *Peter Collinson*, F. R. S. who introduced this Plant, among many others, from North-America. We have no English Name for this Plant, and at present but one Species; viz.

COL-

COLLINSONIA foliis cordatis oppositis. Collinsonia with heart-shaped Leaves growing opposite.

This Plant was brought from Maryland, where it grows wild; as it also does in some other Parts of America, by the Sides of Ditches, and in low moist Grounds, where it usually rises to the Height of four or five Feet; but in England it seldom grows above three Feet high; and unless it is planted in a moist warm Situation, or in dry Weather is duly watered, it rarely flowers well; therefore many People keep the Plants in large Pots, for the more convenient watering them: but these Plants seldom produce good Seeds; whereas those which are planted in the full Ground, and are constantly watered, will ripen Seeds very well in good Seasons.

This Plant may be easily propagated by parting the Roots in October. These Roots should be planted at three Feet Distance; for their Roots require much Nourishment, otherwise they will not thrive. This Plant will live in the open Ground, if it is planted in a sheltered Situation.

COLOCYNTHIS, Coloquintida, or Bitter-gourd.

The Characters are;

It is in all respects like the Gourd, excepting the Leaves of this Plant being deeply jagged, and the Fruit being excessively bitter, and not eatable.

The Species are;

1. *COLOCYNTHIS fructu rotundo, major.* C. B. The greater Coloquintida, with a round Fruit.

2. *COLOCYNTHIS fructu aurantio simili.* Tourn. Coloquintida with a Fruit resembling an Orange.

There are several other Varieties of this Plant, which are very common in divers Parts of the East and West-Indies; but as few of them

come to any Maturity with us, I shall pass them over, with only observing, that whoever hath a mind to cultivate any of these Plants, must sow them upon an Hot-bed, and manage them as is directed for raising early Cucumbers; to which I shall refer the Reader.

COLUMBINE. Vide *Aquilegia*.

COLUMNEA. This Plant hath no English Name.

The Characters are;

It hath a personated Flower of one Leaf, whose Upper-lip is forked and hollow: the Under-lip is divided into three Parts: from the Empalement arises the Pointal, which afterward turns to a soft globular Berry, divided into two Cells, which are full of small Seeds.

The Species are;

1. *COLUMNEA scandens, phœniceo flore, fructu albo.* Plum. Nov. Gen. Climbing Columnea, with a scarlet Flower, and a white Fruit.

2. *COLUMNEA scandens, flore lutescente, fructu albo.* Plum. Nov. Gen. Climbing Columnea, with a yellowish Flower, and a white Fruit.

These Plants are Natives of the warmest Parts of America; so are too tender to live in England, unless they are preserved in the Stove. They are propagated by Seeds, which must be sown in a good Hot-bed; and when the Plants come up, they must be treated in the same way as other tender Exotic Plants, which are kept in the Bark-stove.

They may also be propagated by laying down their tender Shoots, which, if duly watered, will take Root in about three Months; when they may be cut off from the old Plants, and planted into separate Pots, and afterward treated in the same manner as the Seedling-plants.

COLUTEA,

COLUTEA, Bladder-sena.

The Characters are;

It hath a papilionaceous, or Butterfly Flower, which is succeeded by Pods, somewhat resembling the inflated Bladders of Fishes; in which are contained several kidney-shaped Seeds.

The Species are;

1. COLUTEA *vesicaria*. C. B. Bladder-sena.

2. COLUTEA *vesicaria, vesiculis rubentibus*. J. B. Bladder-sena with redish-colour'd Pods.

3. COLUTEA *Orientalis, flore sanguinei coloris, lutea macula notato*. Tourn. Cor. Eastern Bladder-sena, with blood-colour'd Flowers spotted with Yellow.

4. COLUTEA *Ethiopica, flore phœniceo, folio Barbae-Jovis*. Breyn. Cent. Ethiopian Bladder-sena, with scarlet Flowers, and Leaves like the Silver-bush.

5. COLUTEA *Africana annua, foliis parvis mucronatis, vesiculis compressis*. Hort. Amst. African annual Bladder-sena, with small pointed Leaves, and compressed Pods.

6. COLUTEA *foliolis ovatis, caule arboreo*. Bladder-sena with oval Leaves, and a woody Stem.

The two first Sorts are promiscuously sold by the Gardeners near London, amongst other flowering Shrubs, and are seldom distinguished but by Botanists.

These are propagated by sowing their Seeds any time in the Spring, in a Bed of common Earth; and when the Plants are come up, they must be kept clear from Weeds; and the *Michaemas* following, they should be transplanted either into Nursery-rows, or in the Places where they are designed to remain: for if they are let grow in the Seed-bed too long, they are very subject to have downright Tap-roots, which renders them unfit for Transplant-

ation: nor should these Trees be suffered to remain too long in the Nursery before they are transplanted, for the same Reason.

These Shrubs grow to the Height of ten or fifteen Feet, and are very proper to intermix with Trees of a middling Growth in Wilderness-quarters, or in Clumps of flowering Trees, where the Oddness of their Flowers and Pods will make a pretty Variety, especially as these Trees continue a long time in Flower; for they usually begin flowering by the End of May; and from that time, to September, they are seldom destitute of Flowers.

These Trees make great Shoots annually, which are frequently broken down by strong Winds in Summer; so that if they are not sheltered by other Trees, their Branches should be supported; otherwise they will be broken, and split off, whereby the Trees will be rendered unsightly.

The third Sort was discovered by Dr. Tournefort in the *Levant*; from whence he sent the Seeds to the Royal Gardens at *Paris*; and the Seeds have since been communicated to the Gardens in several Parts of *Europe*; and in *England* are now become common in several Nurseries near *London*.

This Sort does not grow quite so tall as the common; but makes a more regular Shrub than that. The Flowers of this Sort are of a dusky-red Colour, spotted with Yellow; so it makes a very pretty Variety, and is as hardy as the common Sort; therefore may be propagated by Seeds in the same manner.

The fourth Sort is tender; so will not live thro' the Winters, when they are severe, in the open Air in *England*; but in mild Winters, if they

they are planted in a dry Soil, and a warm Situation, they will thrive very well; and those Plants which live abroad, will flower much stronger, and make a finer Appearance, than those which are preserved in the Green-house; for these Plants require a large Share of Air, otherwise they are apt to draw up weak; so seldom produce their Flowers in plenty: therefore when any of the Plants are sheltered in Winter, they must be placed as near the Windows as possible, that they may have all the Advantages of Air; and in the Spring they must be hardened to bear the open Air as soon as possible.

This Sort is propagated by Seeds as the former: if the Seeds are sown early in the Spring, upon a warm Border of light Earth, the Plants will flower in *August*; and if the Autumn prove favourable, they will ripen their Seeds very well: but there are some Persons who sow the Seeds upon a moderate Hot-bed in the Spring, whereby they bring the Plants so forward as to flower in *July*, so that the Seeds are always perfected from these Plants: when these Plants are transplanted, it should always be done while they are young; for they do not bear removing well when they are large. This Sort will sometimes live in the open Air for three or four Years, when they stand in a well-sheltered Situation; and these will grow to have large Heads, and make a very fine Appearance when they are in Flower; they will also continue much longer in Beauty than those Plants which are treated more tenderly.

The fifth Sort is a low annual Plant, which seldom grows more than a Foot and an half in Height: the Flowers being small, and having

little Beauty, it is seldom preserved but in Botanic Gardens: the Seeds of this Sort must be sown upon a moderate Hot-bed in the Spring; and the Plants must be planted into small Pots, and brought forward in another Hot-bed: in *July* they will flower, when they may be exposed in the open Air, in a warm Situation, where the Seeds will ripen in *September*, and the Plants will soon after decay.

The sixth Sort was brought into England by the Rev. Dr. Pocock from the *Lewant*: this Sort is very much like the first, in its outward Appearance, but never grows so tall: this sends forth Suckers in plenty from the Root: the small Leaves of this Sort are oblong, and much smaller than those of the first; and each Leaf has a greater Number of these *Pinnæ* placed along the Midrib: the Flowers are like those of the first, but are seldom more in Number than three upon each Footstalk. This Sort begins flowering almost a Month before the first, and continues longer in the Autumn; which renders it more valuable, especially as it is equally hardy, and may be propagated in as great Plenty by Seeds.

COLUTEA SCORPIOIDES.

Vide Emerus.

COLLIFLOWER. *Vide Brasica.*

COMA AUREA. *Vide Chrysocoma.*

COMARUM, Marsh Cinquefoil.

The Characters are;

The Emplacement of the Flower is of one Leaf, which is cut at the Top into ten Parts: the Flower has five Petals: in the Centre of the Flower is situated a great Number of roundish Pointals collected into an Head: these are attended by a great Number of Stamina:

Stamina: the Empalement afterward becomes the Cover of the Fruit, which incloses many small pointed Seeds.

This Plant was ranged by former Botanists under the Title of *Pentaphylloides*; which, being a compound Name, is altered by Dr. Linnæus to this of *Comarum*.

There are two Varieties of this Plant, which are found upon moist Bogs in the North of England, and in Ireland: one of these has thin smooth Leaves, and the other has thick hairy Leaves; but I believe them to be accidental Varieties arising from their Places of Growth.

As these Plants are Natives of Bogs, they are with Difficulty preserved in Gardens; for they must be planted in a Soil as near to that of their natural Growth as possible: they are very apt to spread much at the Root, when in a proper Situation: so whoever is inclineable to preserve these Plants, may remove them from the Places of their Growth in October; and if they are planted on a Bog, there will be no Danger of the Plants succeeding: there are a few of these Plants now growing upon a Bog at *Hamstead*, which were planted there some Years ago; but the nearest Place to London, where they grow wild, is in the Meadows near *Guilford* in *Surry*.

COMMELINA.

The Characters are;

The Leaves are produced alternately, and surround the Stalks at their Base, being in Shape somewhat like the *Ephemerum*: at the Setting on of the Branches, between the Wing of the Leaf and the Stalk, is produced a Flower, which consists of two Leaves, which are placed in the Form of two Wings, much after the manner of the *Butterfly-flowers*: from the upper Part of the Flower are produced three short Stamina (or Threads); upon

which are fastened yellow Apices, which resemble the Head of a Mushroom: in the under Part of the Flower are produced three other Male Stamina, which are thicker and longer than the other: the Ovary is produced in the Centre of the Flower, which is extended into a long intorted Tube, and becomes an oblong Fruit, divided into two Cells, in each of which is contained one oblong Seed.

The Species are;

1. *COMMELINA graminea latifolia, flore cœruleo.* Plum. Nov. Gen. Broad grass-leav'd Herb Commelina, with blue Flowers.

2. *COMMELINA procumbens annua, saponariæ folio.* Hort. Elth. Trailing annual Commelina, with a Sowerwort-leaf.

3. *COMMELINA erecta, ampliore subcœruleo flore.* Hort. Elth. Larger upright Commelina, with a bluish Flower.

4. *COMMELINA radice anacampserotis.* Hort. Elth. Commelina with a Root like Orpine.

These Plants are nearly allied to the *Ephemerum* or Spiderwort; from which Genus they differ in the Flowers, which, in those of this Genus, have but two Leaves, whereas those of the *Ephemerum* have three; so that by some of the Writers on Botany, these have been titled *Ephemerum flore bipetalo, i. e.* Spiderwort with a Flower of two Leaves.

The second Sort is a trailing annual Plant, which if permitted to scatter its Seeds, the Plants will come up the following Spring, much better than when the Seeds are preserved and sown with Care; for if the Seeds are not sown in Autumn, soon after they are ripe, they seldom grow: therefore when the Seeds are to be transported to any Distance, they should be put up in Sand or Earth to preserve them; and they should

should be sown as soon as possible when they arrive: the Plants of this Sort do not bear transplanting well, especially if they are not removed very young; therefore it is better to sow the Seeds where the Plants are to remain, and thin them out so as to leave them six or eight Inches asunder; and if they are kept clean from Weeds, they will require no other Care: this Sort begins to flower the latter End of *June*, and will continue till the Frost comes on, which presently destroys the Plants.

The third Sort is a perennial Plant; but the Roots will not live through the Winter, unless they are screened from the Cold; nor will this Sort flower and perfect its Seeds well in *England*, unless the Pots are plunged into an Hot-bed, to bring them forward in the Spring. These two Sorts are both Natives of the Northern Parts of *America*.

The fourth Sort was brought from the South of *America*; so is more tender than either of the former Sorts: this must be constantly kept under Glasses in an Hot-bed, otherwise it will not flower, and ripen its Seeds: this and the former Sort should be raised on an Hot-bed early in the Spring; and when the Plants are fit to transplant, they should be planted into separate small Pots, and plunged into a fresh Hot-bed, and treated as other Exotic Plants: with this Management they will flower in *July*, and ripen their Seeds in *September*; and their Roots will live thro' the Winter, if the Pots are placed in a Stove. They both die to the Root every Autumn, and shoot up again in the Spring.

The third Sort grows erect; but the fourth will trail upon the Ground, if the Plants are not supported. This has a knobbed Root resembling that of the common *Orpine*.

CONOCARPODENDRON. *Vide* Protea.

CONOCARPUS, Button-tree, *vulgo*.

The Characters are;

The Empalement of the Flower is small, and consists of one Leaf, which is cut at the Brim into five sharp Segments: the Flower is apetalous, having a large obtuse Pointal situated in the Centre of the Empalement, which is attended by five Stamina: the Pointal afterward becomes a round hard dry Fruit, resembling a small Cone, having many Cells, in each of which is lodged one angular Seed.

The Species are;

1. CONOCARPUS *caudice erecto, foliis lanceolatis acutis*. Upright Button-tree, with pointed spear-shaped Leaves.

2. CONOCARPUS *procumbens, foliis orbiculatis*. Trailing Button-tree, with round Leaves.

The first Sort is very common in the Island of *Jamaica*, where it grows in swampy Places near the Sea; it is also found in several other Parts of *America*, in moist Places, always near the Sea-coast, where it grows to the Height of twenty-five or thirty Feet, and produces plenty of Seeds.

The second Sort was found by my late learned Friend Dr. *William Houfoun*, near the *Havannah*, in the same swampy Ground like the first: the Branches of this Sort trail upon the Ground, and never rise upward.

Both these Sorts are preserved in some curious Gardens for the sake of Variety; but they are Plants of no great Beauty: they are propagated from Seeds, which must be obtained from the Places of their natural Growth; for they never produce any good Seeds in *Europe*: these Seeds, if they are fresh, will come up very soon, if they are sown upon

a good Hot-bed; and if the Plants are potted, and preserved in a Bark-stove, they will make great Progress; but they are too tender to live in this Country, unless they are constantly kept in the Stove, and treated in the same manner with other tender Exotic Plants; observing, as they are Natives of Swamps, to supply them often with Water: these Plants are ever-green, casting off their old Leaves when the new come out.

CONSOLIDA MAJOR. *Vide* Symphytum.

CONSOLIDA MEDIA. *Vide* Bugula.

CONSOLIDA MINIMA. *Vide* Bellis.

CONSOLIDA REGALIS. *Vide* Delphinium.

CONVALLARIA, Lily of the Valley.

The Characters are;

The Flower hath no Empalement, and consists of one Leaf; is shaped like a Bell, and cut into six Parts at the Brim, which are reflex'd: in the Centre of the Flower is situated a globular Pointal, attended by six Stamina, which support oblong erect Summits: the Pointal afterward becomes a soft round Berry, inclosing three roundish Seeds.

The Species are;

1. CONVALLARIA *scapo nudo*. Lin. *Hort. Cliff.* The common Lily of the Valley.

2. CONVALLARIA *scapo nudo, flore rubente*. Lily of the Valley, with red Flowers.

3. CONVALLARIA *latifolia*. Lily of the Valley, with broad Leaves.

4. CONVALLARIA *latifolia, flore pleno variegato*. Broad-leav'd Lily of the Valley, with a double-striped Flower.

The first Sort grows wild in several Parts of England, but particularly in the Woods near Woburn in Bedford-

shire, where the poor Inhabitants gather the Flowers to supply the Markets in London: this Sort is also planted in Gardens for the Sweetness of its Flowers.

The second Sort is a Variety of the first, from which it only differs in the Colour of its Flowers: this is only to be found in some curious Gardens.

The third Sort hath Leaves much broader than those of the first; and the Spikes of Flowers are generally larger; this is not found wild in England, but in Germany it is very common.

The fourth Sort is a Native of the Alps: the Leaves of this Sort are very broad, and the Flowers are much larger than those of the common Sort, and are finely variegated with Purple: this Sort is very rare in England at present.

All these Sorts increase very fast by their creeping Roots, except the last, whereby they may be had in great Plenty by parting their Roots in October: they must be planted in a shady Situation, and, in a moist Soil, will produce more Flowers than in a dry Ground: when they are planted, the Roots should be put near a Foot asunder, to allow them room to spread; for they will soon meet at this Distance; and, as they should not be transplanted oftener than every third Year, when they are planted too close, they will mat their Roots so closely together, as to prevent their flowering strongly.

CONVOLVULUS, Bindweed.

The Characters are;

It hath, for the most part, trailing Stalks: the Leaves grow alternately upon the Branches: the Flower consists of one intire Leaf, shaped like a Bell, whose Mouth or Brim is, for the most part, widely spread and expanded: the Ovary becomes a roundish

mem.

membraneous Fruit, which is wrapp'd up within the Flower-cup, and is generally divided into three Cells, each containing one angular Seed.

The Species are ;

1. *CONVOLVULUS vulgaris major albus*. Mor. Hist. The common great white Bindweed, vulgarly called Bear-bind.

2. *CONVOLVULUS minor arvensis*, flore roseo. C. B. Lesser Field Bindweed, with a rose-colour'd Flower, vulgarly called Gravel-bind.

3. *CONVOLVULUS maritimus nostras rotundifolius*. Mor. Hist. Common Sea Bindweed, with round Leaves, or *Soldanella Officin.*

4. *CONVOLVULUS marinus catharticus*, folio rotundo, flore purpureo. Plum. American purging Sea Bindweed, with a round Leaf, and a purple Flower.

5. *CONVOLVULUS purpureus*, folio subrotundo. C. B. Indian Convolvulus, with roundish Leaves, and purple Flowers.

6. *CONVOLVULUS Indicus*, flore albo H. R. Par. Indian Bindweed, with white Flowers.

7. *CONVOLVULUS Indicus*, flore albo-purpurascens, semine albo. H. R. Monsp. Indian Bindweed, with whitish-purple Flowers, and white Seeds.

8. *CONVOLVULUS Indicus*, flore amplo roseo. Indian Bindweed, with large rose-colour'd Flowers.

9. *CONVOLVULUS cæruleus hederaceus, seu trifolius*. Park. Ivy-leav'd Indian Bindweed, with fair blue Flowers.

10. *CONVOLVULUS Canariensis semper-virens*, folio molli incano, flore ex albo purpurascens. H. A. Perennial Canary Bindweed, with soft hoary Leaves, and whitish purple Flowers.

11. *CONVOLVULUS major heptaphyllos*, flore sulphureo odorato specio-

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fissimo. Sloan. Cat. Jam. Great American Bindweed, with specious yellow sweet-scented Flowers, commonly called Spanish Arbor-vine, or Spanish Wood-bind.

12. *CONVOLVULUS Lusitanicus*, flore cyaneo. Bross. Portugal Bindweed, with fine blue Flowers, vulgarly called *Convolvulus minor*.

13. *CONVOLVULUS Lusitanicus*, flore & semine albo. Boerb. Ind. alt. Portugal Bindweed, with white Flowers and Seeds, vulgarly called *Convolvulus minor*, flore albo.

14. *CONVOLVULUS major rectus Creticus argenteus*. Mor. Hist. Great upright Bindweed from Crete, with silver-colour'd Leaves.

15. *CONVOLVULUS linariæ folio, assurgens*. Tourn. Upright Bindweed, with Toadflax-leaves.

16. *CONVOLVULUS radice tuberosa esculenta, spinachiæ folio*, flore albo, fundo purpureo, semine post singulos flores singulo. Sloan. Cat. White and yellow Spanish Potatoes.

17. *CONVOLVULUS radice tuberosa esculenta minore purpurea*. Sloan. Cat. Red Spanish Potatoes.

18. *CONVOLVULUS radice tuberosa cathartica*. Houst. The Jalap.

19. *CONVOLVULUS radice tuberosa maxima, foliis hederaceis incanis, floribus maximis purpureis, semine villoso*. Houst. Large tuberous-rooted Bindweed, with hoary Ivy-leaves, large purple Flowers, and hairy Seeds.

20. *CONVOLVULUS pentaphyllos, folio glabro dentato, viticulis hirsutis*. Plum. Cat. Five-leav'd Bindweed, with smooth indented Leaves, and hairy Stalks.

21. *CONVOLVULUS polyanthos niveus, folio subrotundo majori*. Plum. Cat. American Bindweed, with many white Flowers, and a larger roundish Leaf.

22. CONVULVULUS *luteus polyanthos*. Plum. Cat. Yellow many-flower'd Bindweed.

23. CONVULVULUS *amplissimo folio cordiformi, flore maximo purpurascente*. Plum. Cat. Bindweed with a large heart-shaped Leaf, and a large purplish Flower.

24. CONVULVULUS *amplissimo folio cordiformi, flore albo maximo*. Plum. Cat. Bindweed with a large heart-shaped Leaf, and a large white Flower.

25. CONVULVULUS *coccineus heptaphyllos, radice crassissima*. Plum. Cat. Scarlet Bindweed, with seven Leaves, and a thick Root.

26. CONVULVULUS *pentaphyllos hirsutus*. Plum. Cat. Hairy five-leav'd Bindweed.

27. CONVULVULUS *polyphyllos, flore & fructu purpureis maximis*. Plum. Cat. Many-leav'd Bindweed, with the largest purple Flower and Fruit.

28. CONVULVULUS *minimus villosus, helianthemifolio*. Plum. Cat. The least hairy Bindweed, with a dwarf Cistus-leaf.

29. CONVULVULUS *pentaphyllos minor, flore purpureo*. Sloan. Cat. Lesser five-leav'd Bindweed, with a purple Flower.

30. CONVULVULUS *polyanthos, foliis & viticulis purpureis*. Many-flower'd Bindweed, with purple Stalks and Leaves.

31. CONVULVULUS *Americanus, aristolochiaefolio glabro, viticulis hirsutis, flore majore purpureo, semine lanuginoso*. American Bindweed, with a smooth Birthwort-leaf, hairy Stalks, a large purple Flower, and hairy Seeds.

32. CONVULVULUS *Americanus, foliis oblongis hirsutis, flore minore purpurascente, semine minimo*. American Bindweed, with hairy oblong

Leaves, a small purplish Flower, and the least Seed.

33. CONVULVULUS *Syriacus, & Scammonea Syriaca*. Mor. Hist. The Scammony.

34. CONVULVULUS *Indicus alatus maximus, foliis ibisco nonnihil similibus, angulosis*. Hort. Lugd. Bat. The Turbith of the Shops.

There are yet many other Sorts which have been brought into the *English* Gardens from *America*; but, as they are Plants of less Beauty than those here enumerated, I shall pass them over; for there seems to be no End to the Number of Species of this Genus: every Year some new Sorts are brought into *England*.

The first of these Species is a very troublesome Weed in Gardens, especially under Hedges, or amongst the Roots of Trees; where, by its creeping Roots, it increases very fast; and the Plant twisting itself about whatever Plants, &c. are near it, will spread as far above-ground, overbearing whatever Plant it comes near. The only Remedy that I know of to destroy this Plant, is by often hoeing of it down; which in one Year's time (if carefully performed, and often repeated) will entirely destroy it: for the whole Plant abounds with a milky Juice; and whenever the Top is cut off, it is very subject to emit so great a Quantity of its Juice, as to destroy the whole Branch to the Root, which (as the Gardeners express it) is *bleeding to Death*.

The second Sort, of which there are great Varieties of different-colour'd Flowers, is still a worse Weed than the former; for the Roots of this Kind insinuate themselves into the Gravel many Feet deep, and greatly increase under-ground, rising and spreading its Branches over every

every thing near it. This I know no other Method to destroy, than hoeing often, or pulling it up by Hand; which will, in time, weaken and subdue it: but this can't be done under three or four Years, if attended with all possible Care (especially in a dry, sandy, or gravelly Soil): but in a wet Soil it is soon destroyed; for the Roots are very subject to rot with too much Moisture in Winter.

The third Sort is found in Plenty upon the gravelly or sandy Shores, where the salt Water overflows, in many Parts of *England*. This is a strong Purger, and as such is often used in Medicine. This Plant, if sown in a Garden, will seldom last above a Year or two.

The fourth Sort is found in great Plenty upon the Sea-shores of *America*; and is by the Inhabitants used as a Purge. The Seeds of this Plant were brought from the *Bahama-Islands* by Mr. *Catesby*, and have been raised in several Gardens in *England*; but it is very tender, and not to be kept thro' the Winter without a Stove.

The two Kinds of Potatoes are much cultivated in the *West-Indies*, where they are a great Part of the Food of the Inhabitants; and from these Roots they make a Drink which they call *Mobby*; which is done by stewing the Roots over a gentle Fire till they are soft; then they break the Roots, and put them into fair Water, letting them remain therein two or three Hours, in which time the Water will have drawn out the Spirit of the Root; then they put the Liquor and Roots into a woollen Bag, and strain the Liquor through into a Jar, when in two Hours after it will begin to work; then they cover the Jar, and let it remain until the next Day, when it will be fit to drink. This Liquor

they make stronger or weaker, by putting a greater or less Quantity of Roots into the Water. It is a very sprightly Drink, but not subject to fly in the Head, nor will it keep good longer than four or five Days.

These Plants are propagated with great Ease; for every Piece of the Root, which has an Eye or Bud, will grow, and send out Branches trailing on the Ground, which emit Roots at every Joint, and form a large Tuber or Potato at each, which in those warm Countries will be full grown, and fit for Use, in three or four Months time; so that from one Root planted there will be twenty or thirty fair Roots produced. Some of these Roots have been brought from *America* into *Europe*, and are now frequently cultivated in *Spain* and *Portugal*; from both which Places the Roots are annually brought into *England*, and are by some Persons greatly esteemed; tho' in general they are not so well liked as the common Potato, being too sweet and luscious for most Palates.

In *England* these Plants are sometimes cultivated by curious Persons, after the following manner: The latter End of *March*, or the Beginning of *April*, they prepare an Heap of hot Dung; then having chosen a warm Spot of light Ground, they dig Holes about eight Feet asunder, into each of which they put four or five Barrows of the hot Dung, which must be laid smooth, raising it high in the Middle; then they cover the Dung with light rich Earth, and upon the Top of each Hill they plant two or three Pieces of sound Roots, each having an Eye or Bud; then they cover the Hills with Bell or Hand-glasses, to preserve an Heat in that Part of the Hill where the Roots are planted, as also to prevent the Rain from rotting the Roots. In

about a Fortnight or three Weeks after planting they will begin to shoot, when the Glasses must be raised on one Side every Day, to admit fresh Air to the Plants; and they must be frequently refreshed with Water; but it should not be given them in large Quantities, until the Plants are grown pretty strong, lest thereby you rot the Roots. When the Vines have spread so far as to reach the Sides of the Glasses, the Glasses must be raised with three Bricks, to allow room for the Vines to spread; but the Glasses should not be taken quite away from the Plants until *June*, when the Plants will be past Danger of Injury from the Cold. As these Vines spread, so the Ground about them should be loosened and raised, that they may more easily strike their Roots into it; and in dry Weather the Vines should be watered all over, three or four times a Week; which greatly strengthen the Plants, and cause the Roots which are formed at each Joint of the Vines, to grow large and fair: they must also be constantly kept clear from Weeds, which, if suffered to grow amongst the Plants, will overbear and greatly weaken or destroy them. These Roots must remain undisturbed till Autumn, when the first Approach of Frost will pinch the tender Leaves of the Vines, at which time you must immediately take up the Roots; for if the Frost should reach them, it will intirely destroy them. These Roots may be kept in dry Sand, in a warm Place, for Use in the Winter; and a few of the soundest must be preserved to make a fresh Plantation in the Spring.

The Jalap, whose Root has been long used in Medicine in *Europe*, is a Native of the Province of *Halapa*, about two Days Journey from *La Vera Cruz* in the *Spanish West-Indies*,

from whence the Root is sent in great Quantities every Year to *Europe*; but it is of late that the Plant has been known to the *Europeans*; for Dr. *Tournefort*, upon the Information of Father *Plumier*, has delivered it as one of the Species of the *Marvel of Peru*, and constituted the Genus under the Title of *Jalapa*: but my late learned Friend Dr. *William Houstoun*, who was at *La Vera Cruz* two or three times, procured some Plants from *Halapa*, by his Interest with an ingenious *Spaniard*; which he carried to *Jamaica*, and planted there; by which he was informed truly that it was one Species of *Convolvulus*, and accordingly gave it the Name I have here mentioned it under.

This, and most of the other Sorts of *Convolvulus* here mentioned, were found in several Parts of *America*, by the fore-mentioned Dr. *Houstoun*, who sent the Seeds of them into *England*, where they have been cultivated; but as most of them are abiding Plants, and require a warm Stove to preserve them in Winter, few of them have been maintained here: for they spread and ramble so far, that few Stoves now built are tall enough to contain them; and if they are intermix'd with other Plants, they will twist themselves round whatever Plants grow near them, and will soon overbear and destroy them, if not timely prevented.

All these Sorts of *Convolvulus* are propagated by Seeds, which should be sown in a moderate Hot-bed early in the Spring: those Sorts which have large Seeds, should be sown very thin, and buried deeper in the Earth, than those which have small Seeds: in about a Fortnight after they are sown, the Plants will begin to appear above-ground, when the Glasses of the Hot-bed should be raised

raised every Day, to admit fresh Air to the Plants; otherwise they will draw up weak, and twist themselves together, so as to render it difficult to separate them. When the Plants are about three Inches high, they should be carefully taken up, and each planted in a small Pot filled with fresh light Earth, and then plunged into a moderate Hot-bed of Tan-ners Bark, observing to shade the Glasses every Day with Mats, until the Plants have taken new Root; after which time they should have a large Share of fresh Air; and in warm Weather they must be frequently watered. When the Plants have filled the Pots with their Roots, they should be shaken out, and planted into larger Pots filled with fresh Earth, and then placed in the Stove, where they may have room to climb, and their Shoots either twisted on an Espalier made in the back Part of the Stove for these and other rambling Plants, or else supported with long Stakes; otherwise they will ramble over whatever Plants stand near them. Some of these Sorts will produce Flowers the first Season, but others will not flower until the second or third Year; nor will they flower kindly, unless they have a large Share of fresh Air, especially in warm Weather. These Plants will continue several Years, provided they are managed rightly; and will produce Flowers and Seeds every Year, and make a fine Appearance in the Stove, when they are in Flower.

The fifth, sixth, seventh, eighth, and ninth Sorts are annual, and are propagated in Gardens for the Beauty of their Flowers: these are commonly sown on an Hot-bed in *March*; and afterwards transplanted into Borders in the open Air, where being supported by tall Stakes, they will

twist round them, and arise to a great Height, producing great Quantities of fine large bell-shaped Flowers, and will continue flowering until the Frost prevent them.

These may all be raised in the open Ground, except the ninth, which, if it is not brought forward in the Spring by an Hot-bed, seldom produces ripe Seeds: the rest are very hardy, and may be sown to cover Seats, Arbours, Palisadoes, &c. which they will do in a short time, and continue very handsome until the Frost destroys them: the several Varieties, when intermixed, make a beautiful Appearance; but the ninth Sort is by far the most beautiful of them all, the Flowers of this being of the finest azure blue Colour.

The tenth Sort is an abiding Plant, and requires a Green-house in Winter: this will grow to a considerable Height, and must be supported by strong Stakes: it flowers almost every Year with us; but seldom produces good Seeds in *England*. This may be propagated by laying down the tender Branches in the Spring, which by Autumn will have sufficient Roots to be taken off. These must be planted in Pots filled with fresh light Earth, and sheltered from Frosts in Winter; but must have as much free Air as possible in mild Weather, and require frequent Waterings: it may also be propagated by Cuttings in any of the Summer-months.

The eleventh Sort is very common in the hotter Parts of *America*, where it is known by the Name of *Spanish* Arbour-vine: it is by the Inhabitants planted to cover Arbours and Seats, for which Purpose it is very proper: for in those Countries one of these Plants will grow to the Length of sixty or an hundred Feet, and produce great Quantities of Side-branches; by which means, in a very

short time, it will cover a large Seat: this Plant produces in *America* great Quantities of large fragrant yellow Flowers, which are each of them succeeded by three large angular Seeds. It is a very tender Plant with us, and cannot be preserved but in warm Stoves through the Winter; nor hath it as yet produced any Flowers in *England*, that I know of: it rises easily from the Seeds, if they are sown in an Hot-bed, and will grow to a great Length in one Summer; and although I have sometimes preserved it for two Years, and the Plants have spread to a great Length, yet I could never perceive any attempt to flower.

The twelfth and thirteenth Sorts are annual; but these do not climb as the others: the Seeds of these Plants may be sown in open Borders in *March* or *April*, where they will come up very well; and may be afterwards transplanted to a greater Distance, to adorn the Borders of a Pleasure-garden; but these do better when they are sown where they are to remain. These Plants trail upon the Ground, if they are not supported, and produce their beautiful Flowers through most of the Summer-months.

The fourteenth Sort is an abiding Plant, which with us grows upright to be three or four Feet high: the Branches are set very thick with long narrow silver-colour'd Leaves, which make a fine Appearance all the Year; and the Flowers grow upon the Tops of the Branches in an Umbel, which are white. These Flowers are sometimes succeeded by angular Seeds like the other Kinds: it may be propagated by planting Cuttings in any of the Summer-months, observing to water and shade them until they have taken Root; at which time they must be planted in Pots filled

with fresh sandy Soil, and must be sheltered in Winter from the Frosts, but require open free Air at all times when the Weather is mild.

The fifteenth Sort is a perennial Plant, which increases greatly by its creeping Roots: this grows erect about eight or ten Inches high, and produces Flowers somewhat like those of our lesser wild Kind; but seldom produces good Seeds with us; tho' the Plant may be abundantly multiplied by parting the Roots: it is very hardy, and loves a light Soil.

CONYZA, Flea-bane.

The Characters are;

It hath undivided Leaves, which, for the most part, are glutinous, and have a strong Scent: the Cup of the Flower is, for the most part, scaly, and of a cylindrical Form: the Flower is composed of many Florets, which are succeeded by Seeds, which have a downy Substance adhering to them: to which Notes should be added, The Leaves growing alternately; by which it is distinguished from Eupatorium.

The Species are;

1. *CONYZA major vulgaris. C. B.* Common great Flea-bane.

2. *CONYZA minor, flore globoso. C. B.* Lesser Flea-bane, with globular Flowers.

3. *CONYZA Americana, lamii folio. Tourn.* American Flea-bane, with Leaves of the Dead-nettle.

4. *CONYZA mas Theophrasti, major Dioscoridis. C. B.* The greater Flea-bane of *Dioscorides*.

5. *CONYZA Cretica fruticosa, folio molli, candidissimo, & tomentoso. Flor.* Shrubby Flea-bane from *Crete*, with soft downy white Leaves.

6. *CONYZA fruticosa, cisti odore, floribus pallide purpureis, summitatibus ramulorum insidentibus, capitulis & semine minoribus. Sloan. Cat. Jam.* Shrubby American Flea-bane, smell-

ing

ing like the Rock-rose, with pale-purple Flowers growing on the Top of the Branches, and smaller Heads and Seeds.

7. *CONYZA fruticosa, cisti odore, floribus pallide purpureis, summitatibus ramulorum insidentibus, capitulis & semine majoribus.* Sloan. Cat. Jam. Shrubby American Flea-bane, smelling like the Rock-rose, with pale-purple Flowers growing on the Top of the Branches, and larger Heads and Seeds.

8. *CONYZA arborescens tomentosa, foliis oblongis, floribus in summitatibus ramulorum racemosis sparsis albicantibus.* Houst. Woolly tree-like Flea-bane, with longish Leaves, and white Flowers, growing in thin Bunches on the Top of the Branches.

9. *CONYZA frutescens, flore luteo umbellato.* Houst. Shrubby American Flea-bane, with yellow Flowers, growing in an Umbel.

10. *CONYZA arborescens, foliis oblongis, floribus singulis, tribus flosculis constantibus.* Houst. Tree-like American Flea-bane, with longish Leaves, and each Flower has constantly three Florets.

11. *CONYZA scandens, lauri foliis asperis, capitulis spicatis rotundis, floribus albis.* Houst. Climbing American Flea-bane, with rough Bay-leaves, and white Flowers growing on round Spikes.

12. *CONYZA fruticosa, flore pallide purpureo, capitulis è lateribus ramulorum spicatis exeuntibus.* Sloan. Cat. Jam. Shrubby American Flea-bane, with pale-purple Flowers growing in Spikes from the Side and at the Top of the Branches.

13. *CONYZA major odorata, sive Baccharis, floribus purpureis nudis.* Sloan. Cat. Jam. Greater sweet-smelling Flea-bane, with naked purple Flowers.

14. *CONYZA major inodora, helennii folio integro, secco & duro, cichorii flore albo, è ramorum lateribus exeunte.* Sloan. Cat. Greater unfavoury Flea-bane, with hard dry Elecampane-leaves, and white Flowers growing from the Side of the Branches.

15. *CONYZA fruticosa, folio hastato, flore pallide purpureo.* Sloan. Cat. Jam. Shrubby American Flea-bane, with a spear-shaped Leaf, and a pale-purple Flower.

16. *CONYZA latifolia viscosa suaveolens, flore aureo ex Gallo-Provincia.* Inst. R. H. Broad-leav'd viscous sweet-scented Flea-bane, with a yellow Flower, from Provence in France.

17. *CONYZA herbacea, caule alato, salicis folio, floribus umbellatis purpureis minoribus.* Houst. Herbaceous American Flea-bane, with a Willow-leaf, and smaller purple Flowers growing in an Umbel.

18. *CONYZA odorata, bellidis folio villoso & viscoso.* Houst. Sweet-smelling Flea-bane, with a viscous hairy Daify-leaf.

19. *CONYZA symphyti facie, flore luteo.* Houst. American Flea-bane, with the Face of Comfrey, and a yellow Flower.

20. *CONYZA linariæ folio, floribus parvis spicatis albis.* Houst. American Flea-bane, with a Toadflax-leaf, and small white Flowers growing in Spikes.

The first of these Species is found wild upon dry chalky Hills in divers Parts of England, and is seldom cultivated in Gardens: it is a biennial Plant, being sown in the Spring: it flowers the second Year, and after producing Seeds it decays. This Sort is sometimes used in Medicine.

The second Sort grows on boggy Places, or where the Water has stood

all the Winter, in many Parts of *England*: it may be propagated in a Garden by sowing the Seeds soon after they are ripe. This Plant is annual. This Species is also sometimes used in Medicine.

The third Sort is very common in *Barbados*, and many other Parts of *America*: it very often comes up in great Plenty in the Earth that is brought from thence. This is an annual Plant, and must be sown in an Hot-bed; and managed as hath been directed for the *Balsamina*, to which I refer the Reader.

The fourth Sort is said to grow in great Plenty about *Montpelier*: this is somewhat like the first Sort, and may be propagated by sowing the Seeds soon after they are ripe, which will flower the succeeding Summer; and, after perfecting its Seeds, decays.

The fifth Sort is an abiding Plant, which with us seldom rises above eighteen Inches high, but hath woody Branches; the Leaves are very white and soft, which renders them very agreeable when intermixed with different-colour'd Plants in large Borders; but the Flowers have no great Beauty in them. This Plant is pretty hardy, and will endure the Cold of our ordinary Winters in the open Borders, and may be propagated by planting Cuttings in Summer; for it never seeds in *England*.

The sixteenth Sort is a very hardy Plant, and will endure the Cold of our Winters in *England* very well: this Sort seldom continues longer than two or three Years; so should be sown every other Year to preserve the Kind: this produces plenty of Seeds in *England*, which if permitted to scatter, the Plants will come up without any farther Care, and may be transplanted to the Places where they are to remain.

The eighteenth Sort is an annual Plant, which should be raised on a moderate Hot-bed in the Spring; and in Summer they may be transplanted into the open Air, where they will flower, and produce ripe Seeds: but as there is little Beauty in this Plant, it is rarely preserved but in Botanic Gardens.

The seventeenth, nineteenth, and twentieth Sorts are herbaceous Plants, which have annual Stalks, and perennial Roots. The others are all shrubby Plants, which make a pretty Variety in the Stove, where there is room to admit them.

These shrubby Flea-banes are Natives of the *West-Indies*, where they usually grow about six or seven Feet high, and some of the Tree-kinds ten or twelve Feet high, and divide into many Branches. They are all propagated by Seeds, which should be sown soon after they are ripe; for as they have light downy Seeds, they will not retain their growing Quality very long. If the Seeds are sown in Autumn, they will remain in the Ground all the Winter, and the Plants will appear the following Spring; but then the Pots, in which the Seeds are sown, should be plung'd into an Hot-bed of Tanners Bark, and secured from Cold, otherwise the Seeds will perish in Winter: and when the Seeds are kept out of the Ground till Spring, they seldom grow: but as these Plants rarely produce Seeds in this Country, the surest Method to obtain them is to have their Seeds sown in a Box of Earth soon after they are ripe, in their native Country, and sent over to *England*. When these Tubs of Earth arrive, they should be plunged into a moderate Hot-bed of Tanners Bark, and frequently refreshed with Water, which will soon bring up the

the Plants, if their Seeds were not destroyed in their Passage.

When the Plants begin to appear above-ground, the Glasses of the Hot-bed should be raised every Day in warm Weather, to admit fresh Air to the Plants; otherwise they will draw up weak, and be soon spoiled: they must also be frequently refreshed with Water in warm Weather; for they are all very thirsty Plants, most of them naturally growing in low swampy Grounds. When the Plants are grown about two Inches high, they should be carefully taken up, and each planted in a separate Pot filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark; observing to shade the Glasses of the Hot-bed every Day with Mats, to screen the Plants from the Heat of the Sun, until they have taken new Root; after which time they must have a large Share of fresh Air, as also a great Quantity of Moisture in warm Weather. In Winter these Plants must be placed in the Stove, where they may enjoy a moderate Warmth; for if they are kept too hot, they will make weak Shoots in Winter, which will render them very unsightly. In Summer these Plants must have a large Share of fresh Air; but they must not be placed in the open Air; for they are too tender to thrive abroad in this Climate.

These Plants will produce their Flowers in two or three Years after they are raised, and will continue many Years, provided they are carefully managed, and will flower annually toward the Latter-part of the Summer.

The herbaceous Kinds must be propagated in the same manner as hath been directed for the woody Kinds; but these will decay annually to the Surface, and rise again every

Spring from the Root. When the green Shoots begin to decay, the Plants should not be over-watered, lest thereby the Roots should be rotted; but, during the time of their Growth, they must be plentifully watered. The surest Method to have these Plants produce their Flowers, is, to plunge the Pots into a moderate Hot-bed of Tanners Bark in the Spring; observing to let them have a large Share of Air in warm Weather, to prevent their shooting too weak, and water them frequently; with this Management they will produce their Flowers every Year: but as they rarely produce ripe Seeds in *England*, the Pots must be removed into the Stove in Winter to preserve their Roots, which may be parted in the Spring, at the time when they are plunged into the Hot-bed; by which Method they may be increased.

CONSERVATORY. *Vide* Greenhouse.

CONVAL-LILY. *Vide* Conval-laria.

COPAIBA, The Balsam of Capevi-tree.

The Characters are;

It hath a Flower consisting of five Leaves, which expands in form of a Rose: the Pointal is fixed in the Centre of the Flower, which afterward becomes a Pod; in which are contained one or two Seeds, which are surrounded with a Pulp of a yellow Colour.

We know but one Sort of this Tree; which is,

COPAIBA folio subrotundo, flore rubro. The Balsam of Capevi, with a roundish Leaf, and a red Flower.

This Tree grows near a Village called *Ayapel*, in the Province of *Antiochi*, in the *Spanish West-Indies*; this is about ten Days Journey from *Carthagena*. There are great Numbers

bers of these Trees in the Woods about this Village, which grow to the Height of fifty or sixty Feet: some of these Trees do not yield any of the Balsam; those which do, are distinguish'd by a Ridge which runs along their Trunks; these Trees are wounded in their Centre, and they place Calabash-shells, or some other Vessels, to the wounded Part, to receive the Balsam, which will all flow out in a short time. One of these Trees will yield five or six Gallons of the Balsam; but though these Trees will thrive well after being tapp'd, yet they never afford any more Balsam.

As this Balsam is used in Medicine, it deserves our Application to procure the Trees, and cultivate them in some of the *English* Colonies of *America*; for as the *English* are possessed of Lands in so many different Latitudes, they might cultivate most Kinds of Trees and Plants, from the different Parts of the World, which are used in Medicine, Dyeing, or for any other Purpose of Life.

The Seeds of this Tree were brought from the Country of their Growth by Mr. Robert Millar, Surgeon, who sowed a Part of them in *Jamaica*, which he informed me had succeeded very well; so that we may hope to have these Trees propagated in great Plenty in a few Years, in some of the *English* Colonies, if the Slothfulness of the Inhabitants doth not suffer them to perish, as they have the Cinnamon-tree, and some other useful Plants, which have been carried thither by curious Persons.

There are not at present any of these Trees in *Europe*, that I can learn; for those Seeds which Mr. Millar sent over to *England* were all destroyed by Insects in their Passage, so that not one succeeded in the several Places where they were sown:

but could fresh Seeds be procured, the Plants might be raised in *England*, and preserved in the Bark-stoves very well; for the Country of their Growth is much more temperate than many others, from whence we have been furnished with a great Variety of Plants, which succeed very well in the Stoves; and some of them arrive to a great Degree of Perfection.

CORALLODENDRON, The Coral-tree.

The Characters are;

It hath the Appearance of a Tree: the Leaves, for the most part, consist of three Lobes: the Flowers are papilionaceous: the Standard, or Vexillum, is long, and shaped like a Sword: the Wings on each Side, and the Keel, or Carina, are very short: the Flowers are succeeded by knobby bi-valve Pods, which contain several kidney-shaped Seeds.

The Species are;

1. CORALLODENDRON *triphyllum Americanum spinosum, flore ruberrimo: Tourn.* The three-leav'd American Coral-tree, with deep-red Flowers, commonly called in *America* the Bean-tree.

2. CORALLODENDRON *Americanum non spinosum, foliis magis acuminatis, flore longiore: An, Coral arbor non spinosa, flore longiore & magis clauso. Sloan. Cat. Jam.* American Coral-tree without Spines, having sharp-pointed Leaves, and long Flowers.

3. CORALLODENDRON *Carolinianum, floribus spicatis coccineis, radice crassissima.* Thick-rooted Carolina Coral-tree, with scarlet Flowers growing in Spikes.

4. CORALLODENDRON *triphyllum Americanum minus, spinis & seminibus nigricantibus. Infr. R. H.* Lesser three-leav'd Coral-tree, with black Seeds and Spines.

5. *CORALLODENDRON triphyllum Americanum non spinosum, foliis acutioribus, flore pallido rubente.* Three-leav'd American Coral-tree without Spines, having pointed Leaves, and pale-red Flowers.

6. *CORALLODENDRON triphyllum Americanum, caudice & nervis foliorum spinosis armatis.* Three-leav'd American Coral-tree, whose Stalk and the Nerves of the Leaves are armed with Spines.

The first and second Species grow with us to eight or ten Feet high, with strong woody Stems, and produce very beautiful scarlet Flowers; but never produce any Seeds in the European Gardens, as I can hear of. They may be rais'd by sowing their Seeds, which are frequently brought from America in an Hot-bed, in the Spring of the Year, which will very easily come up. The young Plants should, when they are five or six Inches high, be carefully transplanted into Pots of fresh light Earth, and plunged into an Hot-bed, observing to shade them from the Heat of the Sun, until they have taken fresh Root; after which they should have Air given them, by raising up the Glasses in the Day-time, when the Weather is warm; and in July and August they should have a greater Share of Air, in order to harden them before Winter; and in September they should be removed into the Stove, and, during the Winter-season, should have but little Water given them; for they commonly cast their Leaves in Winter, and push them out fresh the succeeding Spring.

These Plants may also be propagated by planting Cuttings in any of the Summer-months, which should be put into Pots filled with fresh light Earth, and plunged into a moderate Hot-bed of Tanners Bark, observing to shade the Glasses in the Heat

of the Day, and to give them gentle Refreshings with Water, as the Earth in the Pots is found to dry. In three Months time these Cuttings will have sufficient Roots to transplant; at which time they must be put each into a single Pot, and plunged again into the Hot-bed, and manag'd as was directed for the Seedling-plants.

In four or five Years time these Plants will produce Flowers, if they are preserved in a moderate Warmth all the Winter; for if they are kept too warm, they are subject to grow all the Winter, and the Shoots will be thereby drawn too weak to produce Flowers; and if they are kept too cold, they frequently lose their tender Buds, which should produce the Flowers: therefore if they are kept up to the temperate Point mark'd on the Botanic Thermometer during the Winter-season, they will succeed very well: these Sorts always produce their Flowers before the Leaves appear.

The third Sort was rais'd from Seeds, which were sent from Carolina by Mr. Catesby, Anno 1724. This Plant seldom rises above three Feet high with us, and hath large knobbed Roots; the Flowers are produced in Spikes upon the Branches, in the Summer-season, when the Plant is almost destitute of Leaves; but it never produces ripe Seeds with us.

This Plant is somewhat hardier than the other two Species, and may be kept in a lesser Degree of Heat in Winter, and be exposed to the open Air during the Months of June, July, and August. I have not been able yet to propagate this Plant by Cuttings.

Of this there are two Varieties, one with a deep-scarlet, and the other a pale-red Flower: neither of these branch

branch out as the other Sorts, but generally rise with one Shoot from the Root; at the Extremity of which the Flowers are produced in a long Spike.

The Seeds of the three last-mention'd Sorts were brought from *Carthagena* by Mr. Robert Millar: from these many Plants have been raised in the *English* Gardens: these rise to the Height of seven or eight Feet, and shoot out many irregular Branches, which, of the fourth and fifth Sorts, are strongly armed with Spines: neither of these have yet produced Flowers in *England*, so far as I can learn: these may be propagated in the same manner as the former, but are less hardy.

CORCHORUS, Jews-mallow.

The Characters are;

The Leaves are produced alternately at the Joints of the Stalks: the Cup of the Flower consists of five Leaves: the Flower hath five Leaves, which expand in form of a Rose: the Pointal of the Flower becomes a cylindrical Fruit, which is divided into five Cells, which are filled with angular Seeds.

The Species are;

1. **CORCHORUS** *five Melochia*. J.
B. Common Jews-mallow.

2. **CORCHORUS** *Americana, carpinifolia, sextuplici capsula prælonga*. Pluk. American Jews-mallow, with Leaves like the Hornbeam, with long Pods.

3. **CORCHORUS** *Americana, prælongis foliis, capsula striata subrotunda brevi*. Pluk. American Jews-mallow, with long Leaves, and short roundish furrow'd Pods.

4. **CORCHORUS** *Orientalis, brevioribus foliis, flore flavo, fructu caryophylloide longiori*. Pluk. Eastern Jews-mallow, with short Leaves, and long Pods shaped like a Clove.

The first Species, *Rauwolf* says, is sown in great Plenty about *Aleppo*,

as a Pot-herb; the *Jews* boiling the Leaves of this Plant to eat with their Meat: this he supposes to be the *Olus Judaicum* of *Avicenna*, and the *Corchorum* of *Pliny*.

This Plant grows in the *East* and *West-Indies*, from both which Places I have several times received the Seeds. In the *East-Indies* the Herb is used in the same manner as in the *Lewant*, as I have been informed; but I do not hear, that it is used by the Inhabitants of *America*.

The Varieties of this Plant are preserved in curious Botanic Gardens to add to their Number of Plants; it being of no great Beauty or Use with us, is seldom propagated in other Gardens.

They are all of them annual, and must be sown on an Hot-bed early in the Spring, and afterward treated as the Female Balsamine; to which I shall refer the Reader for their Culture. They delight in a rich Soil, and must have frequent Waterings in dry Weather.

Their Flowers are produced in June and July, and their Seeds ripen in September.

CORDIA, The Sebesten.

The Characters are;

The Flower is of one Leaf, which is funnel-shaped, and is expanded at the Brim, where it is slightly cut into five or six Parts: the Pointal, which is situated in the Middle of the Empalement, afterward becomes a globular Fruit, pointed at one End; which is divided into two Cells, in each of which is included one oblong Seed.

This Genus of Plants was constituted by Father *Plumier*, who gave it this Name of *Cordia*, in Honour to *Valerius Cordus*, an eminent Botanist of the 16th Century.

The Species are;

1. **CORDIA** *nucis juglandis folio, flore purpureo*. Plum. Nov. Gen. *Cordia*

dia with a Walnut-tree-leaf, and a purple Flower.

2. *CORDIA foliis subovatis serrato-dentatis*. Lin. Hort. Cliff. Cordia with oval, ferrated, and indented Leaves.

This Sort is by most Botanists believed to be the Myxa of *Casalpinus*; which is the true Sebesten of the Shops: the Fruit of which was formerly used in Medicine, but of late Years has been seldom brought to England; therefore is rarely ordered. In the *Bahama Islands*, where this Tree grows in plenty, they call it the Lignum Aloes; the Wood of this Tree having a grateful Odour, somewhat like that of the Lignum Aloes. If this is the same with the Myxa, as it is generally supposed, it grows in *Egypt*, *Malabar*, and several Parts of *America*; and is chiefly found in low marshy Lands.

The first Sort was discovered by Father *Plumier*, in some of the *French Islands in America*; and since was found in the Bay of *Campechy*, by Mr. *Robert Millar*, who sent the Seeds to *England*. This Sort grows to the Height of eighteen or twenty Feet in the natural Places where it is found wild: but the second Sort is seldom above eight or ten Feet high, and commonly rises with many Stems from the Root.

These Plants, being Natives of warm Countries, are too tender to live thro' the Winter in this Country, unless they are preserved in a Stove. They are both propagated by Seeds, which must be procured from the Countries of their natural Growth; for they never produce any in *England*. These Seeds must be sown in small Pots, which must be plunged into a good Hot-bed of Tanners Bark in the Spring; and if the Seeds are fresh and good, the Plants will begin to appear in five or six Weeks

after. These must be brought forward in the Hot-bed, by being treated as other tender Exotic Plants; observing frequently to water them, as they are aquatic Plants; and in *July*, if the Plants have made much Advance, they should be gradually hardened; otherwise they will grow so weak as not to be easily preserved thro' the Winter. As these Plants obtain Strength, they will become more hardy; but during the two first Winters, it will be proper to plunge them into the Tan-bed in the Stove; but when they begin to have woody Stems, they may be placed on Shelves in a dry Stove; where if they are kept in a moderate Degree of Heat, they may be preserved very well; especially the second Sort, which is somewhat hardier than the first. This may also be placed abroad in a warm Situation, in the Beginning of *July*; where the Plants may remain till the Middle of *September*, provided the Season continues warm; otherwise they must be removed into the Stove sooner.

These Plants both of them produce very fine Flowers, especially the second Sort; which has large Tufts of scarlet Flowers, which are produced at the Extremity of the Branches, after the same manner as the Oleander or Rose-bay; but these Flowers are much larger, and of a much finer Colour.

A small Piece of Wood of this Tree, being put on a Pan of lighted Coals, will send forth a most agreeable Odour, which will perfume a whole House.

COREOPSIS.

This Genus of Plants was constituted by Dr. *Linnaeus*, Professor of Botany at *Upsal* in *Sweden*; who gave this Name to it, on account of the Seeds of this Plant being like a Tick. We have no proper *English* Name

Name for this Genus; but as the Flowers of these Plants have Rays like the Sunflower, to which they are nearly allied, we may distinguish it by the Title of Tick-seeded Sunflower.

The Characters are;

The Flower is included in a double Empalement; the outer is composed commonly of eight narrow Leaves, and the inner of the same Number; but broader and coloured: the Flowers are radiated, the Rays being Female; and the Disk is composed of Hermaphrodite Flowers; which are tubulous, and indented at their Brim: these have each a compressed horned Pointal, attended by five slender Stamina; but the Female Flowers, which are abortive, have none: these Hermaphrodite Flowers have each a single compressed bordered Seed, which has two Horns at the Point.

The Species are;

1. COREOPSIS foliis serratis. Flor. Leyd. Tick-seeded Sunflower, with sawed Leaves.

2. COREOPSIS foliis linearibus integerrimis, caule erecto. Flor. Virg. Tick-seeded Sunflower, with narrow whole Leaves, and an upright Stalk.

3. COREOPSIS foliis integerrimis. Flor. Leyd. Whole leav'd tick-seeded Sunflower.

These Plants are Natives of America: the first and second Sorts are found wild in many Parts of North-America, especially the first, which is very common in New-England, Maryland, and Virginia. This Sort hath perennial Roots, and annual Stalks, which decay every Autumn; and in the Spring the Roots send forth many Stalks, which grow to the Height of eight or ten Feet, and branch out at the Top; where are produc'd Branches of small Sunflowers, each having a dark purple Middle. This was called by Dr.

Tournefort, *Corona solis altissima, alato caule*; i. e. The tallest Sunflower, with winged Stalks. This may be propagated plentifully by parting the Roots in October, when the Stalks begin to decay; and if they are planted in a good moist Soil, they will grow very tall, and produce a great Number of Flowers; but it is too rambling to be admitted into small Gardens, therefore is only proper for large Borders, or to plant in Wilderness-quarters, to fill up Vacancies. This flowers in August.

The second Sort is a Plant of humbler Growth, seldom rising above two Feet high: the Stalks grow erect, and the Leaves are very long, narrow, intire, and rough: the Flowers are produced at the Extremity of the Shoots, which are of a fine yellow Colour, having a dark-purple Middle; and these are of long Duration. The Plants commonly begin to flower the Middle of July, and continue till October; and if the Season proves favourable, some Flowers will continue till November; which makes it merit a Place in every good Garden. The Seeds of this Sort have been frequently sent to England from Maryland, where the Plants grow wild; but these seem to be biennial Plants with us, their Roots having as yet continued but two Years with us; nor do they perfect their Seeds in England; so that at present the Plants are very rare in the English Gardens: but as it is an hardy Plant, we may hope to reconcile it to our Climate, and find a Method to increase it.

The third Sort is an annual Plant: the Seeds of this were brought from Carolina by Mr. Catfby, in the Year 1726. This must be sown on a gentle Hot-bed in the Spring; and when the Plants are fit to transplant, they should be each planted into a separate

separate small Pot, and plunged into a fresh Hot-bed to bring them forward; and in *June* they should be inured by degrees to the open Air, and afterward some of them may be shaken out of the Pots, and planted in a warm Border; where, if the Season is good, they will flower in the Middle of *July*, and ripen their Seeds the Beginning of *September*.

CORIANDRUM, Coriander.

The Characters are;

It hath a fibrose annual Root: the lower Leaves are broad, but the upper Leaves are deeply cut into fine Segments: the Petals of the Flower are unequal, and shaped like an Heart: the Fruit is compos'd of two hemispherical, and sometimes spherical, Seeds.

The Species are;

1. CORIANDRUM majus. C. B. Greater Coriander.

2. CORIANDRUM minus, testiculatum. C. B. Smaller testiculated Coriander.

3. CORIANDRUM sylvestre fastidiosum. C. B.

The first of these Species is the most common Kind, which is cultivated in the *European* Gardens and Fields for the Seeds, which are us'd in Medicine. The second Sort is less common than the first, and is seldom found but in Botanic Gardens in these Parts of *Europe*. The third Sort, as mentioned in *Caspar Baubin's Pinax*, and cited by the learned *Boerhaave*, in his Catalogue of the *Leyden* Garden, is so like the first, that I could find no Difference between them when compared together, tho' I received the Seeds of this Kind from the *Leyden* Garden.

These Plants are propagated by sowing their Seeds early in the Spring, in an open Situation, in a Bed of good fresh Earth; and when the Plants are come up, they should be hoed out to about four Inches Di-

stance every Way, clearing them from Weeds; by which Management these Plants will grow strong, and produce a greater Quantity of good Seeds. The first Sort was formerly cultivated in Gardens as a Sallad-herb.

CORIARIA, Myrtle-leav'd Sumach, *vulgo*.

The Characters are;

It is Male and Female in different Plants: the Male Flowers have a five-leav'd Empalement: the Flower has five Leaves, which are joined to the Empalement: these have ten slender Stamina: the Female Flowers have the like Empalement, and the same Number of Petals: and in the Centre are placed five Pointals, which turn to a Berry, inclosing five kidney-shaped Seeds.

The Species are;

1. CORIARIA vulgaris mas. *Nissol. Act. 1711*. Male Myrtle-leav'd Sumach.

2. CORIARIA vulgaris fœmina. *Lin. Hort. Cliff.* Female Myrtle-leav'd Sumach.

The Sort with Male Flowers is the most common in *England*, the other being very rarely seen in any of the Gardens. These grow wild in great Plenty about *Montpelier* in *France*, where it is used for Tanning of Leather; and, from this Use, has been titled by the Botanists, *Rhus coriaria-rum*; i. e. Tanners Sumach.

These Shrubs seldom grow more than three or four Feet high; and as they creep at the Root, they send forth many Stems, whereby they form a Thicket; so may be planted to fill up Vacancies in Wilderness-quarters; but they are improper for small Gardens, where they will take up too much room: and as there is no great Beauty in the Flowers, they are only admitted for Variety.

It is strange that *Monfieur Nissol*, who lived upon the Place where these

these grew in plenty, and who constituted this Genus, in the Memoirs of the Academy at *Paris*, has taken no Notice of their being Male and Female in different Plants.

It may be propagated plentifully from the Suckers, which are produced from the creeping Roots in great Abundance: these should be taken off in *March*, and planted into a Nursery, to form good Roots; where they may continue one or two Years, and then must be removed to the Places where they are to remain.

This Plant delights in a loamy Soil, which is not too stiff; and should be placed where it may have Shelter from the North and East Winds; where it will endure the Cold of our ordinary Winters very well, and will flower better than if it is preserved in Pots, and sheltered in the Winter, as hath been by some practised.

CORINDUM, Heart-peas.

The Characters are;

It hath a trailing Stalk, emitting Claspers, whereby it fastens itself to whatever Plant it stands near: the Calyx, or Flower-cup, consists of three Leaves: the Flowers consist of eight Leaves, and are of an anomalous Figure: the Ovary becomes a Fruit which is like a Bladder, and divided into three Cells; in which are contained round Seeds, in form of Peas, of a black Colour; having the Figure of an Heart of a white Colour upon each.

The Species are;

1. *CORINDUM folio ampliori, fructu majore. Tourn.* Heart-pea with large Leaves and Fruit.

2. *CORINDUM folio & fructu minore. Tourn.* Heart-pea with small Leaves and Fruit; called by the Inhabitants of the *West-Indies*, Wild Parsley.

3. *CORINDUM folio amplissimo, fructu minore.* Heart-pea with very large Leaves, and small Fruit.

These Plants are very common in *Jamaica*, *Barbados*, and most of the other warm Islands in the *West-Indies*; where their Seeds are scattered, and become Weeds all over the Country.

They may be cultivated in *England*, by sowing their Seeds on an Hot-bed in *March*; and when the Plants come up, they must be transplanted into a fresh Hot-bed, where they may remain until the Middle of *May*; at which time they may be transplanted into Pots or Borders, and exposed to the open Air. These Plants will require Sticks to support them: otherwise their Branches will trail upon the Ground, and be apt to rot, especially in a wet Season. There is no great Beauty in this Plant; it is chiefly preserved as a Rarity in the Gardens of the Curious. It produces its Flowers in *June*, and the Seeds are perfected in *August*.

CORIS. We have no *English* Name for this Plant.

The Characters are;

It hath a monopetalous personated Flower, whose hinder Part is tubulous, but the fore Part is shaped like a Fan: from the Flower-cup rises the Pointal, fixed like a Nail in the hinder Part of the Flower; which afterward becomes a globular Fruit, divided into several Parts, containing roundish Seeds, which are inclosed by the Calyx.

The Species are;

1. *CORIS cœrulea maritima. C. B. P.* Maritime blue Coris.

2. *CORIS maritima, flore rubro. C. B. P.* Maritime Coris, with a red Flower.

3. *CORIS maritima, flore albo. H. R. Monf.* Maritime Coris, with a white Flower.

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These Plants grow wild about *Montpelier*, and in most Places in the South of *France*; they seldom grow above six Inches high, and spread near the Surface of the Ground like Heath; and in *June*, when they are full of Flowers, they make a very pretty Appearance.

They may be propagated by sowing their Seeds in the Spring, on a Bed of fresh Earth; and when the Plants are about an Inch high, they should be transplanted, some of them into Pots filled with fresh light Earth, that they may be sheltered in Winter; and the others into a warm Border, where they will endure the Cold of our ordinary Winters very well; but in severe Frost they are generally destroyed: for which Reason, it will be proper to have some Plants of each Sort in Pots, which may be put under a common Hot-bed-frame in Winter, where they may be covered in frosty Weather: but when it is mild, they should have a great Share of free Air. These Plants rarely produce ripe Seeds in *England*; therefore it will be proper to increase them from Slips and Cuttings; which will take Root, if planted in *August* on a very gentle Hot-bed, and shaded from the Sun, and duly watered.

CORISPERMUM, Tick-feed.

The Characters are;

The Flower hath no Petals: the Empalement is of two Leaves, which are equal and compressed: in the Centre is one long recurved Stamen, and a round compressed Pointal, which afterward turns to a flat Vessel, having two Cells, each containing one oblong Seed, shaped like a Tick.

The Species are;

1. **CORISPERMUM foliis alternis.**
Lin. Hort. Cliff. Tick-feed with Leaves growing alternate.

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2. **CORISPERMUM foliis oppositis.**
Lin. Hort. Cliff. Starry Ducksmeat.

The first Sort grows in *Tartary*, where there are some other Varieties of this Genus. The second is common upon Standing-waters, and in low marshy Grounds, where the Waters stand in Winter in divers Parts of *England*.

These Plants are preserved in Botanic Gardens for the sake of Variety; but they have no Beauty; so are seldom cultivated in other Gardens.

The first Sort is an annual Plant, which if suffered to scatter its Seeds, the Ground will be plentifully stock'd with the Plants; which will require no other Care, but to prevent the Weeds from over growing them.

The second will not grow but in marshy Places, where there is Standing-water; over the Surface of which this Plant will soon extend, when once it is established.

As we had no *English* Name to this Genus, I have given it this of Tick-feed; which corresponds with the *Latin* Name.

CORK-TREE. *Vide* Stuber.

CORN-FLAG. *Vide* Gladiolus.

CORN MARIGOLD. *Vide* Chrysanthemum.

CORN-SALLAD. *Vide* Valerianella.

CORNUS, The Cornelian Cherry.

The Characters are;

The Calyx, or Flower-cup, consists of four small rigid Leaves, which are expanded in form of a Cross: from the Centre of which are produced many small yellowish Flowers, each consisting of four Leaves, which are disposed almost in form of an Umbrella: these Flowers are succeeded by Fruit, which are oblong, or of a cylindrical Form, somewhat like an Olive, containing

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taining an hard Stone, which is divided into two Cells, each containing a single seed.

The Species are;

1. CORNUS *hortensis mas.* C. B. The Cornelian Cherry, or Male Cornel-tree.

2. CORNUS *fœmina.* C. B. The Dogberry, or Gatten-tree.

3. CORNUS *fœmina, foliis variegatis.* H. L. The striped Dogberry-tree.

4. CORNUS *fœmina laurifolia, fructu nigro cœruleo, officulo compresso, Virginiana.* Pluk. Alm. The Virginian Dogberry-tree.

5. CORNUS *fœmina Virginiana, folio angustiore.* Narrow-leav'd Female Dogwood of Virginia.

6. CORNUS *fœmina, candidissimis foliis, Americana.* Pluk. Alm. Female Dogwood of America, with very white Leaves, commonly called Swamp Dogwood.

7. CORNUS *Americana, floribus inter folia sparsis.* Pluk. Phyt. Tab. II. f. 2. American Dogwood, with Flowers growing between the Leaves.

8. CORNUS *pumila herbacea Chamæperichlymenum dicta.* Hort. Elib. Dwarf Honeysuckle, vulgo.

The first of these Trees is very common in the English Gardens, being propagated for its Fruit; which is by many People preserved to make Tarts: it is also used in Medicine as an Astringent and Cooler. There is also an officinal Preparation of this Fruit, called *Rob de Cornis*. Of this there are two or three Varieties, which differ in the Colour of their Fruit: but that with the red Fruit is the most common in England.

As the Fruit of this Tree is not at present much esteem'd, the Nursery-men about London propagate this Tree as one of the Sorts which is commonly sold as a flowering

Shrub; and is by some People valued, for coming so early to flower; for if the Season is mild, the Flowers will appear by the Beginning of February; and tho' there is no great Beauty in them, yet, as they are generally produced in plenty, at a Season when few other Flowers appear, a few Plants of them may be admitted for Variety. The Fruit of this Tree is seldom ripe before September: the Tree will grow eighteen or twenty Feet high, and make a large Head.

The second Sort is very common in the Hedges in divers Parts of England, and is seldom preserved in Gardens. The Fruit of this Plant is often brought into the Markets, and sold for Buckthorn-berries; from which it may be easily distinguished, if the Berries are opened to observe how many Stones there are in each; which in this Fruit is but one, but in the Buckthorn four; and they may be easily distinguished by rubbing the Juice of the Berries on Paper; that of the Buckthorn will stain the Paper green, whereas the Juice of this stains it purple: this Tree is called *Virga Sanguinea*, from the young Shoots being of a fine red Colour. There is a Variety of this Tree with variegated Leaves, which is preserved in the Nurseries, but is not much esteemed.

The fourth Sort is an American, from whence the Seeds have been brought to England; this is found in all the Northern Parts of America, as are also the fifth and sixth Sorts, being Natives of the Woods in Virginia, New-England, Maryland, and Carolina: these are all of them very hardy, and thrive well in the open Air in England; so are cultivated by the Nursery-men near London, to add to the Variety of their hardy

Trees:

Trees: these grow to the same Height with our common Female Dogberry, and make a much better Appearance: the Shoots of the sixth Sort are of a beautiful red Colour in Winter; and in Summer the Leaves being large, and white, and the Bunches of white Flowers growing at the Extremity of every Branch, renders this Shrub valuable; and in Autumn, when the large Bunches of blue Berries are ripe, they make a fine Appearance.

The eighth Sort grows upon *Cheviot Hills* in *Northumberland*, and also upon the *Alps*, and other mountainous Places in the Northern Countries; but this is very difficult to preserve in Gardens: the only Method is, to remove the Plants from the Places of their natural Growth, with good Balls of Earth to their Roots, and plant them in a moist shady Situation, where they are not annoyed by the Roots of other Plants: in such a Situation they may be preserved two or three Years; but it will rarely happen that they will continue longer.

All the Sorts of Dogwood may be propagated by their Seeds, which, if sown in the Autumn soon after they are ripe, will most of them come up the following Spring; but if the Seeds are not sown in Autumn, they will lie a Year in the Ground before the Plants will appear; and when the Year proves dry, they will sometimes remain two Years in the Ground; therefore the Place should not be disturbed, where these Seeds are sown, under two Years, if the Plants should not come up sooner: when the Plants are come up, they should be duly watered in dry Weather, and kept clean from Weeds; and the Autumn following, they may be removed, and planted in Beds in the Nursery, where they

may remain two Years; by which time they will be fit to transplant, where they are to remain for good.

They are also propagated by Suckers, and laying down of the Branches: most of the Sorts produce plenty of Suckers, especially when they are planted on a moist light Soil, which may be taken off from the old Plants in Autumn, and planted into a Nursery for a Year or two, and then may be transplanted into the Places where they are to remain; but those Plants which are propagated by Suckers, rarely have so good Roots as those which are propagated by Layers, and being much more inclinable to shoot out Suckers, whereby they will fill the Ground round them with their Spawn, they are not near so valuable as those Plants which are raised from Layers.

CORNUTIA [We have no *English* Name for this Plant. It is so called from *Cornutus*, a Physician of *Paris*, who published an History of *Canada Plants*].

The Characters are;

It hath a monopetalous personated Flower, whose upper Lip stands erect, but the under Lip is divided into three Parts: from the Flower-cup arises the Pointal, which is fixed like a Nail in the hinder Part of the Flower, which afterwards becomes a spherical succulent Berry, including Seeds which are for the most part kidney-shaped.

There is but one Species of this Plant yet known; which is,

CORNUTIA flore pyramidato cæruleo, foliis incanis. Plum. Cornutia with a pyramidal Flower, and hoary Leaves.

This Plant was first discovered by Father *Plumier* in *America*, who gave it the Name. It is found in plenty in several of the Islands in the *West-Indies*, and at *Campechy* and

La Vera Cruz, from both which Places I received the Seeds, which were collected by my late ingenious Friend Dr. *William Housloun*, and afterward by Mr. *Robert Millar*, from the same Country. It grows to the Height of ten or twelve Feet: the Branches grow straggling, and the Leaves are placed by Pairs opposite: the Flowers are produced in Spikes at the End of the Branches, which are of a fine blue Colour; these usually appear in the Autumn, and sometimes will remain in Beauty for two Months or more.

It is propagated by Seeds, which should be sown early in the Spring on an Hot-bed; and when the Plants are come up, they should be transplanted each into a separate halfpeny Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to shade them until they have taken Root; after which time they should have fresh Air, in proportion to the Warmth of the Season, and they must be frequently watered (for it naturally grows on swampy Soils). When the Plants have filled these Pots with their Roots, they should be shifted into others of a larger Size, and plunged into the Hot-bed again, where they should be continued till *October*; when they must be removed into the Bark-stove, and plunged into the Tan; for otherwise it will be very difficult to preserve them through the Winter. The Stove in which these Plants are placed, should be kept to the temperate Heat marked on the Botanic Thermometers, which will agree better with them than a greater Heat. The third Year from Seeds these Plants will flower, when they make a fine Appearance in the Stove; but they never perfect their Seeds in *England*.

They may be also propagated by Cuttings, which, if planted into Pots filled with fresh Earth, and plunged into a Bark-bed, observing to shade and water them, will take Root, and must be afterwards treated as the Seedling-plants.

CORONA IMPERIALIS, Crown Imperial.

The *Characters* are;

The Flowers consist of six Leaves, are bell-shaped, and hang downwards; these are ranged, as it were, into a Crown; above which appears a great Bush of Leaves: the Pointal of the Flower becomes an oblong Fruit, which is winged, and divided into three Cells, which are filled with flat Seeds: to which may be added, It hath a coated Root, which is furnished with Fibres at the Bottom.

The *Species* are;

1. CORONA IMPERIALIS. *Dod.*
The common Crown Imperial.

2. CORONA IMPERIALIS *major.*
Tourn. The greater Crown Imperial.

3. CORONA IMPERIALIS *flore pleno.* *Tourn.* Crown Imperial with a double Flower.

4. CORONA IMPERIALIS *duplici corona.* *Tourn.* Crown Imperial with a double Crown.

5. CORONA IMPERIALIS *triplici corona.* *H. L.* Crown Imperial with a triple Crown.

6. CORONA IMPERIALIS *multiflora, latoque caule.* *Tourn.* Crown Imperial with many Flowers, and flat Stalks.

7. CORONA IMPERIALIS *folio vario.* *Tourn.* Strip'd-leav'd Crown Imperial.

8. CORONA IMPERIALIS *folio vario ex viridi & argenteo.* *Boerb. Ind.* Silver strip'd-leav'd Crown Imperial.

9. CORONA IMPERIALIS *flore pulchre luteo*. Tourn. Crown Imperial with a beautiful yellow Flower.

10. CORONA IMPERIALIS *flore luteo pleno*. Boerb. Ind. Crown Imperial with a double yellow Flower.

11. CORONA IMPERIALIS *flore luteo striato*. Tourn. Crown Imperial with a yellow-strip'd Flower.

12. CORONA IMPERIALIS *ramosa*. Tourn. Branched Crown Imperial.

There are some other Varieties of this Flower, which are preserved in the Gardens of curious Florists; but as they are only Variations which are accidental, from Seeds of the same Plants, their Numbers may be increased, like many other bulbous Plants, by such as are curious in saving and sowing Seeds of the different Varieties.

The manner of propagating this Plant from Seeds being the same with the Tulip, I shall refer the Reader to that Article for the particular Directions, and shall proceed to the Method of cultivating their Roots already obtained, so as to have fair large Flowers.

The best Season for transplanting their Roots is in *July* or *August*, before they push forth fresh Fibres; after which time, it is not so safe to remove them: or they may be taken up in *June*, when their green Leaves are quite decay'd; and may be kept out of the Ground until *August*, at which time they should be planted in Beds or Borders of good fresh Earth, burying a little rotten Dung in the Bottom, that the Fibres may strike into it; but be sure not to let it be near the Bulb; for it is apt to rot whenever this happens.

If they are planted in open Beds or Borders of a Pleasure-garden, they should be placed exactly in the Middle; for they will rise to be three

Feet high or more in a good Soil; and so would be improper to stand on the Side of a Border, where should be planted Flowers of lower Growth.

In planting of these Roots, after the Border is marked out, and the Distances fixed between each Root (which should be eight or ten Feet or more, according to the Size of the Garden, and the Number of Roots to be planted), you should open an Hole with a small Spade about six Inches deep, into which you should place your Root, observing to set the Crown uppermost; and then with your Hand fill in the Earth round the Root, breaking the Clods, and removing all large Stones from about it, and afterwards level the Ground with your Spade, and rake the Border over, after the Whole is finished. Your Roots being thus planted, will require no farther Care, as being very hardy; the Frost never injures them: but if the Ground is too wet in Winter, they will be apt to rot; therefore, in such Cases, the Borders should be raised a Foot or more above the Level of the Ground. In *February* their Buds will appear above-ground; and if the Weather be mild, they will advance in Height very fast, and in *March* they will produce their Flowers: but as their Stems grow tall, and the Spring-season being commonly windy, it will be very proper to support them with Sticks, to prevent their being broken down: nor should the Flowers of this Plant be gathered when blown; for it greatly weakens their Roots; so that they do not afford an Increase of Bulbs, and many times are two or three Years before they flower again.

These Roots should be transplanted every third Year, by which time they will have furnished some Off-

sets of considerable Strength, which must be taken from the old Roots; and such of them as are large enough to produce Flowers, may be planted in Borders with the old Roots; but the small ones should be planted in a Nursery-bed, where they may remain till they have Strength enough to flower; but if you remove the blowing Roots oftener, they will not flower so strong, nor will their Increase be near so great.

This Plant deserves a Place in the most curious Flower-gardens, for the Earliness of its Flowering; being the first Plant of large Growth, that we have flowers, and so consequently garnishes the Crowns of Borders, at a Season when there are no other Flowers in the same Line appearing; and so begins that Order of Flowering, which should be succeeded by other Flowers of the like Growth, thro' the greatest Part of the Season. Their Seeds are ripe about the Beginning of June, and should be sown in July. For the Manner of performing it, see *Tulipa*.

CORONA SOLIS. Vide *Helianthus*.

CORONILLA, Jointed-podded Colutea.

The Characters are;

It hath Leaves like those of the Scorpion fena: the Flowers are papilionaceous: the Pods are full of Joints, having one oblong swelling Seed in each Division.

The Species are;

1. CORONILLA *argentea* Cretica. Tourn. Silver-leav'd jointed-podded Colutea of Candia.

2. CORONILLA *maritima*, glauco folio. Tourn. Maritime jointed-podded Colutea, with a sea-green Leaf.

3. CORONILLA *herbacea*, flore vario. Tourn. Herbaceous jointed-podded Colutea, with a variable Flower.

4. CORONILLA *Cretica herbacea*,

flore parvo purpurascente. Tourn. Candia herbaceous jointed-podded Colutea, with a small purplish Flower.

5. CORONILLA *Zeylanica argentea* tota. Boerb. Ind. Silver jointed-podded Colutea of Ceylon.

6. CORONILLA *minima*. Tourn. The least jointed-podded Colutea.

7. CORONILLA *siliquis & seminibus crassioribus*. Tourn. Jointed-podded Colutea, with thick Pods and Seeds.

8. CORONILLA *Americana scandens pentaphylla*. Plum. Five-leav'd American jointed-podded Colutea, with climbing Stalks.

The first and second Species grow with us to be small Shrubs, about three or four Feet high; and are so nearly alike in all respects, as far as I have been able to examine them, that I could readily pronounce them the same, were it not that they have been by so many eminent Botanists distinguished for two absolutely different Plants; which if there are two such, I have as yet seen but one of them: I have indeed received Seeds of the two Sorts from different Persons abroad; but when they came up, they proved the same, and this more than once; which causes me to suspect they are not different; for at different Seasons of the Year the same Plant appears different as to the Colour of its Leaves; which might at first lead a Person into the Mistake: and this has been followed by all that have since written thereof.

This Plant is propagated by sowing the Seeds in the Spring, either upon a gentle Hot-bed, or on a warm Border of fresh light Earth; and when the Plants are come up about two Inches high, they should be transplanted either into Pots, or in a Bed of good rich Earth, at about four or five Inches Distance every Way, where they may remain until

until they have obtained Strength enough to plant out for good, which should be either into Pots filled with good fresh Earth, or in a warm-situated Border; in which, if the Winter is not too severe, they will abide very well, and in the Spring following will produce large Quantities of yellow Flowers of a strong sweet Smell; which will be succeeded by long slender-jointed Pods in great Plenty, in which are contained the Seeds.

The third Sort dies down every Winter, but rises again the succeeding Spring, and produces large trailing Branches, which are furnished with great Numbers of variable-colour'd Flowers, which grow in Bunches; these are sometimes succeeded by small-jointed Pods, containing many oblong Seeds: but the Root creeps very far under-ground, by which the Plant increases greatly; which, when permitted to remain unremoved for two or three Years, will spread and overbear whatever Plants grow near it; for which Reason the Roots should be confin'd; and it should be planted at a Distance from any other Plants: it will grow in almost any Soil and Situation, but thrives best in a warm sunny Exposure, in which the Flowers will also be much fairer, and in greater Quantities.

The fourth Sort is annual, and must be sown every Spring in an open Bed or Border of good light Earth, in the Places where it is to remain; for it doth not very well bear removing. This is a Plant of little Beauty, and is only preserved in curious Gardens of Plants.

The fifth Sort is very tender, being a Native of *Ceylon*: this must be sown on an Hot-bed early in the Spring; and when the Plants are come up, they must be transplanted

into small Pots filled with light sandy Earth, and plunged into a fresh Hot-bed of Tanners Bark; observing to give them frequent gentle Waterings; and as the Weather is hot or cold, so they must have more or less Air in proportion thereto, by raising up the Glasses in the middle of the Day; but in the Nights the Glasses should be covered with Mats.

And when the Plants have grown so as to fill the Pots with their Roots, they must be carefully shaken out of them, preserving the Earth to their Roots; and put them into Pots a Size bigger, filling up the Pot with the same light fresh sandy Earth as before; then plunge the Pots again into the Hot-bed, and manage them as before. In the Winter they must be placed in a warm Bark-stove among Plants of the tenderest Class, observing to refresh them frequently with Water: but never give them too much at a time. In this Management I have had this Plant succeed very well for two or three Years; but I have not as yet seen it flower in *England*, tho' there are Plants of this Kind in three or four Gardens, which are two or three Years old.

The sixth Sort is a very small Plant, and hath very little Beauty in it; this is preserved by the Curious in Botany, but is seldom found in Gardens of Pleasure, where few Plants are admitted that are not either beautiful or rare; it is propagated by sowing the Seeds in the Spring, on a Bed of fresh light Earth, in a warm Position: and when the Plants are come up, they must be either transplanted into Pots filled with the same fresh Earth, or into warm Borders under a South or West Wall; for they are subject to be destroyed by severe Frosts: and therefore those which are planted in

Pots should be sheltered during the Winter-season under a common Hot-bed-frame, taking off the Glasses in mild Weather, that they may enjoy as much of the free open Air as possible; and in the Spring, after the Cold is past, they may be shaken out of the Pots, and planted in a warm Border, where they will flower, and produce ripe Seeds the succeeding Summer.

The seventh Sort grows to the Height of two or three Feet, and branches out on every Side, so as to form a regular Shrub. This may be propagated by Seeds, which should be sown on a moderate Hot-bed in the Spring; and, when the Plants are about two Inches high, they should be carefully transplanted into small Pots filled with fresh light Earth, and plunged into a very moderate Hot-bed, being careful to screen them from the Sun until they have taken new Root; after which time they must have a large Share of fresh Air, otherwise they will draw up very weak; they must also be frequently watered in warm Weather. When these Plants have acquired Strength, they should be inured to bear the open Air by degrees; for in Summer they should be taken out of the Hot-bed, and some of them may be planted in warm Borders; but it will be proper to keep some in Pots, that they may be sheltered in Winter; for in severe Frost those in the Borders will be in Danger of suffering thereby. These Plants produce their Flowers in the Spring, when they make an agreeable Appearance, and in *August* they perfect their Seeds: this Sort greatly resembles the first.

The eighth Sort was discovered by Father *Plumier* in *America*. I received the Seeds of this Plant from *Carthagena*, which were sent me by

my late ingenious Friend Dr. *William Houfoun*. This Plant is propagated by Seeds, which should be sown early in the Spring on a moderate Hot-bed; and when the Plants are come up, they should be each transplanted into an Halfpeny Pot filled with fresh rich Earth, and plunged into an Hot-bed of Tanners Bark, observing to shade them until they have taken Root; after which time they should have Air and Water in proportion to the Warmth of the Season; and when they have filled these Pots with their Roots, they should be shifted into Pots of a larger Size, and plunged into the Hot-bed again, where they must remain until Autumn, when they should be removed into the Stove, and plunged into the Tan. These Plants must be constantly kept in the Bark stove, and placed among Plants which require a moderate Heat; where they will thrive and flower, and should be supported by tall Sticks, round which they will twine as Hops do; so that they must not be suffered to twist round other Plants, lest they overbear and spoil them. These are very proper Plants to place against an Espalier on the back Part of the Stove, among other climbing Plants, where they will make an agreeable Variety.

This Sort will continue two or three Years, provided it be carefully managed, and will sometimes produce ripe Seeds in this Country; but it will be proper to lay down some of the Shoots, either into the Tan, or Pots of fresh Earth plunged into the Tan, because these will often take Root, whereby a Supply of young Plants may be obtained; which is a sure Method to preserve the Kind in this Country, where they do not always perfect their Seeds.

CORONOPUS, Bucks-horn Plantain.

The Characters are;

It agrees in Flower and Fruit with the Plantain, from which it differs in its Leaves, which are deeply cut in on the Edges; whereas the Leaves of Plantain are either intire, or but slightly indented.

The Species are;

1. CORONOPUS *hortensis*. C. B. Garden Buck's-horn Plantain or Harts-horn, *vulgo*.

2. CORONOPUS *Maffiliensis hirsutior latifolius*. Tourn. Broad-leav'd hairy Bucks-horn Plantain of *Maffilles*.

3. CORONOPUS *Neapolitanus tenuifolius*. Col. Narrow-leav'd Bucks-horn Plantain of *Naples*.

4. CORONOPUS *maritimus roseus*. Bocc. Rar. Pl. Rose-like Sea Bucks-horn Plantain.

The first of these Species, tho' intitled a Garden-Plant, yet is found wild in most Parts of *England*, and is the very same Plant which grows upon most Commons, and barren Heaths, where, from the Poorness of the Soil, it appears to be very different from the Garden-kind, as being little more than a fourth Part so large. But this Plant, when transplanted, or sown in a Garden by the other, grows to be full as large: nor can I see any Difference between these, and that which grows upon the Sea-coasts; tho' *Caspar Baubin*, and many Botanists after him, make them distinct Species: but when they are cultivated together in the same Soil, I am satisfied that no Person can distinguish them; therefore I make no doubt of calling them all the same Plant.

This Species was formerly cultivated in Gardens as a Sallad-herb; but at present is little regarded, and almost wholly disused: it may be

easily cultivated by sowing the Seeds in the Spring upon any Soil, or in any Situation, it being extremely hardy; and, when it comes up, it may be thinned out, and suffered to remain for Use at about three or four Inches Distance, where the Leaves may be often cut for the Purposes above-mentioned, the Roots still putting forth fresh Leaves; and, if it is not suffered to seed, the Roots will remain two or three Years: but it seldom continues long after perfecting its Seeds. If the Seeds are suffered to fall upon the Ground, there will be a constant Supply of Plants, without any further Care than clearing them from Weeds as they grow. The other Varieties are maintained in Botanic Gardens; but are seldom cultivated for Pleasure or Profit.

CORTUSA [This Plant is so called, from *Corufus*, a famous Botanist, who first brought it into Use], Bears-ear Sanicle.

The Characters are;

It hath a perennial Root: the Leaves are roundish, rough, and crenated on the Edges, like those of Ground-ivy: the Cup of the Flower is small, and divided into five Parts: the Flowers are shaped like a Funnel, are cut at the Top into many Segments, and are disposed in an Umbel: the Fruit is roundish, terminating into a Point, and is closely fixed in the Cup, in which are contained many small angular Seeds.

The Species are;

1. CORTUSA *foliis cordatis petiolatis*. Lin. Hort. Cliff. Bears-ear Sanicle, or *Cortusa* of *Matthiolum*.

2. CORTUSA *foliis ovatis sessilibus*. Lin. Hort. Cliff. Rough-leav'd Bears-ear Sanicle, or Borage-leav'd *Auricula*.

The first Sort is a Native of the Alps, and Mountains in *Austria*: this

is nearly akin to the Auricula ; but the Flowers are smaller, and of one plain Colour : this Plant is with Difficulty preserved in Gardens, especially if it is planted in open Borders, where the Sun in Summer is very apt to destroy it ; therefore the only Method by which I could ever preserve it, has been by planting the Plants in Pots, and placing them in a shady Situation, where they were duly watered in dry Weather : in this Place they constantly remained both Summer and Winter ; for the Cold will not destroy them : the Earth for this Plant should be light, and not too rich ; for Dung is very injurious to it : as this very rarely produces any Seeds in *England*, the only Method to propagate it is by parting the Roots in the same manner as is practised for Auricula's : the best time for this is about *Michaelmas* ; soon after which the Leaves decay.

The second Sort is by Dr. *Tournefort* ranged with the Mulleins, under the Title of *Verbascum humile Alpinum, boraginis folio & flore* ; and it hath been long known in the *English* Gardens, by the Name of Borage-leav'd Auricula. This Plant was formerly nursed up and placed in the Green-house in Winter, as a tender Plant, whereas it will bear the greatest Cold of this Country, being a Native of the *Pyrenean* Mountains ; so requires the same Culture as the first Sort.

CORYLUS, The Hazel or Nut-tree.

The Characters are ;

It hath Male Flowers, or Catkins, growing at remote Distances from the Fruit on the same Tree : the Nuts grow, for the most part, in Clusters, and are closely joined together at the Bottom, each being covered with an outward Husk or Cup, which opens at

the Top ; and when the Fruit is ripe, it falls out : the Leaves are roundish and intire.

The Species are ;

1. CORYLUS *sylvestris*. C. B. The wild Hazel-nut.

2. CORYLUS *sativa, fructu albo minore, sive vulgaris*. C. B. The small manured Hazel-nut.

3. CORYLUS *sativa, fructu rotundo maximo*. C. B. The large Cob-nut.

4. CORYLUS *sativa, fructu oblongo rubente*. C. B. The red Filbert.

5. CORYLUS *sativa, fructu oblongo rubente, pellicula alba testo*. C. B. The white Filbert.

6. CORYLUS *Hispanica, fructu majore anguloso*. Pluk. Alm. Large Spanish Nut.

The first of these Trees is common in many Woods in *England*, from whence the Fruit is gathered in plenty, and brought to the *London* Markets by the Country-people. This Tree is seldom planted in Gardens (except by Persons curious in Collections of Trees and Shrubs) : it delights to grow on a moist strong Soil, and may be plentifully increas'd by Suckers from the old Plants, or by laying down their Branches, which, in one Year's time, will take sufficient Root for transplanting ; and these will be much handsomer and better-rooted Plants than Suckers, and will greatly outgrow them, especially while young.

The second and third Sorts are planted in Hedge-rows, in moist shady Places in Gardens : but the Fruit is much better, and in greater Quantities, when they have an open free Air, and are not suffered either to grow too thick, or be overhung or crowded with other Trees,

The fourth and fifth Sorts, viz. the red and white Filberts, are mostly esteemed for their Fruit being much sweeter, and their Shells much tenderer.

The sixth Sort is annually brought from *Spain* in great Plenty, and sold in *London* all the Winter-season; from which Nuts there have been many Trees raised in the *English* Gardens; but they seldom prove the same with the Nuts sown.

All these Sorts may be propagated by sowing their Nuts in *February*; which, in order to preserve them good, should be kept in Sand in a moist Cellar, where the Vermin cannot come at them to destroy them; nor should the external Air be excluded from them, which would occasion their growing mouldy.

The manner of sowing the Seeds being well known to every one, I need not here mention it, especially since it is not the surest way to obtain the Sorts desired; for they seldom prove so good as the Nuts which were sown, or at least not one in four of them will: and the Method of propagating them by Layers being not only the surest, but also most expeditious, is what I would recommend to every one, who would cultivate these Trees for the sake of their Fruits.

COSTUS, Zedoary.

The Characters are;

The Flower is inclosed in a single Covering, and hath three Petals: it is shaped like a Lip-flower, the lower Part being broad, long, and spread open at the Brim, where it is slightly cut into three Parts, the Upper-lip being short: from the Bottom of the Flower arises the Pointal, which afterward becomes a roundish Pod, having three Cells, which are full of triangular Seeds.

We have but one Species of this Genus; viz.

COSTUS officinarum. Dale Phar.

This Plant grows both in the *East* and *West-Indies*, in shady moist Places; the Roots propagate under the Ground after the manner of Ginger, or the Flower-de-luce: the Stalks seldom rise above three Feet high: these annually decay to the Root; but as there is a constant Succession of Stalks, the Plants are not long destitute of them: the Flowers are produced on the Top of the Stalks, in a scaly oblong Head, which are white, and shaped somewhat like those of Ginger.

This is a tender Plant; so must be constantly kept in the Bark-stove: it may be easily propagated by parting the Roots in the Spring of the Year; and if they are allowed room in the Pots for their Roots to spread, and are duly watered, the Plants will thrive, and produce their Flowers in Winter, which is the Season of their Flowering: the Root of this Plant was formerly much used in Medicine, but of late it hath not been so much esteemed.

COTINUS, Venice Sumach.

The Characters are;

It hath round Leaves, with long Footstalks: the Flowers are small, consisting of five Leaves, which expand in form of a Rose; are disposed in capillary Branches of very slender and stiff Filaments or Hairs, which are widely diffused after the manner of Plumes, and spring out of the top Branches: in the Centre of the Flower is situated the Pointal, attended by five minute Stamina: the Pointal afterward turns to an oval Berry, inclosing one triangular Seed.

The Species are;

1. COTINUS foliis obverse ovatis. *Lin. Hort. Cliff.* Venice Sumach, commonly called Coccygria.

2. COTINUS foliis obverse cordatis. *Lin. Hort. Cliff.* The Cocoa Plum. The

The first Sort is very common in the Nurseries about *London*, where it is propagated to intermix with other flowering Shrubs: it usually grows to the Height of eight or ten Feet; the Branches grow very irregular and diffus'd; but when it flowers, which it seldom does until it is pretty strong, it makes a beautiful Figure, the Flowers growing, as it were, on large Plumes of Hair, which almost cover the whole Shrub: it is very proper to plant among other Shrubs of the same Growth, where it will make an agreeable Variety.

This Plant is propagated by laying down the tender Branches, which should have a little Slit made at one of the Joints that are laid in the Earth, as is practised in laying Carnations, which will greatly facilitate their Rooting. When they are sufficiently rooted, which is commonly in one Year's time, they may be transplanted where they are to remain; for it seems not to bear removing well, especially when grown old; the Roots trailing far underground, which, when cut or broken, do not soon recover; and it seldom produces many Fibres near the Stem.

The Wood of this Shrub is greatly used in the Southern Parts of *France*, where it grows in great Plenty, to dye their woollen Cloths of a yellow Colour, or *Feuille morte*; and the Tanners use the Leaves to prepare their Skins; from whence it was called *Cotinus Coriaria*.

The second Sort was brought from the *Bahama* Islands by Mr. *Catesby*; it also grows in most of the Islands in the *West-Indies*: this shoots up with many Stems, to the Height of eight or ten Feet, and forms a Sort of Thicket: the Flowers are small and white, and are produced in Clu-

sters: after these the Fruit come, which are about the Size of a common *Damascene*; some of them are purple, some red, and others yellow, of a sweet luscious Taste; and there is a Succession of these Fruit most Part of the Year.

This Sort is tender; therefore will not live in this Country, unless it is preserved in a good Stove: it may be propagated by the Stones of the Fruit, which should be brought over in Sand, and put into Pots as soon as they arrive; and the Pots must be plunged into a good Hot-bed; and, when the Plants come up, they must be kept in the Bark-stove with other tender Plants.

COTONEA MALUS. *Vide* Cydonia.

COTONEASTER. *Vide* Mespilus.

COTULA FÆTIDA. *Vide* Chamæmelum Fætidum.

COTYLEDON, Navelwort.

The Characters are;

It hath a Leaf, Stalk, and the whole Appearance, of Housleek; from which it differs in having an oblong tubulous Flower consisting of one Leaf, which is divided at the Top into five Parts: the Fruit is like that of the Housleek.

The Difference made by Dr. *Linnaeus* between this Genus and the *Crassula*, is in the latter having but five Stamina, and the *Cotyledon* ten; by which Method these two Genera are removed to a great Distance from each other; though, in other more essential Characters, they may be brought nearer together, as they are by Dr. *Van Royen*, in his *Flora Leydensis*; so that as the *Cotyledon* has been separated from the *Sedum* by its Flower having but one Leaf, and the *Sedum* twelve, it has also been separated from the *Crassula* by its having
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a long tubulous Flower; whereas the *Crassula* has short Flowers divided almost to the Bottom.

The Species are;

1. COTYLEDON *major*. C. B. The greater Navelwort.

2. COTYLEDON *Africana frutescens, foliis orbiculatis, limbo purpureo cinctis*. Tourn. Shrubby African Navelwort, with round Leaves edged with a purple Rim.

3. COTYLEDON *Africana frutescens, folio longo & angusto, flore flavescens*. Com. Rar. Shrubby African Navelwort, with a long narrow Leaf, and a yellowish Flower.

4. COTYLEDON *Africana frutescens, flore umbellato coccineo*. Com. Rar. Shrubby African Navelwort, with scarlet Flowers growing in an Umbel.

5. COTYLEDON *Afra, folio crasso lato laciniato, flosculo aureo*. Boerb. Ind. African Navelwort, with a broad thick divided Leaf, and small yellow Flowers.

6. COTYLEDON *Afra arborescens major, foliis glaucis oblongioribus, flore luteo*. Boerb. Ind. Greater tree-like African Navelwort, with oblong sea-green Leaves, and a yellow Flower.

7. COTYLEDON *major arborescens Afra, foliis minoribus crassissimis viridioribus minutissime punctatis*. Boerb. Ind. Greater African tree-like Navelwort, with small thick Leaves.

8. COTYLEDON *major arborescens Afra, foliis minoribus oblongis atroviridibus*. Boerb. Ind. Greater African tree-like Navelwort, with small oblong dark-green Leaves.

9. COTYLEDON *major arborescens Afra, foliis orbiculatis glaucis, limbo purpureo & maculis viridibus ornatis*. Boerb. Ind. alt. Greater tree-like African Navelwort, with rounder sea-green Leaves, having purple Edges, and spotted with Green.

10. COTYLEDON *Capensis, folio semiglobato*. Hort. Elth. Navelwort of the Cape of Good Hope, with thick half-globular Leaves.

11. COTYLEDON *Cretica, folio oblongo fimbriato*. Hort. Elth. Navelwort of Crete, with an oblong far-below'd Leaf.

The first Sort, which is that used in Medicine, grows upon old Walls and Buildings in divers Parts of England, particularly in Shropshire and Somersetshire, in both which Counties it greatly abounds upon old Buildings, and on rocky Places; but is not often found wild near London, nor often cultivated in Gardens: it requires a dry rubbishy Soil, and to have a shady Situation: this is a biennial Plant, so that after it has perfected Seed, the Plant decays; but if the Seeds are scattered on Walls, and old Buildings, as soon as they are ripe, or if they are permitted to fall upon such Places, the Plants will come up, and thrive much better than when they are sown in the Ground: and when once the Plants are established upon an old Wall or Building, they will sow their Seeds, and maintain their Place, better than when they are cultivated with more Care.

The African Kinds are all of them propagated by planting Cuttings in any of the Summer-months, which should be laid in a dry Place for a Week or more after they are taken from the Plant, before they are planted; for these abound with Juice through every Part of the Plant, which will certainly rot the Cuttings, if they are not suffered to lie out of the Ground, that the wounded Part may heal over, and the great Redundancy of Sap evaporate. The Soil in which these Plants thrive best, is one-third fresh light Earth from a Pasture, one-third Sand, and the

the other third Part Lime-rubbish, and rotten Tan, in equal Quantities: these should be well mixed, and laid in an Heap six or eight Months before it is used; turning it over five or six times, that the Parts may the better incorporate; and before it is used, it will be proper to pass it through a Screen, to separate the large Stones, Clods, &c. therefrom.

Having prepared the Earth, and your Cuttings being in a fit Order for Planting, you must fill as many Halfpenny Pots with Earth as you have Cuttings to plant; then put one Cutting in the Middle of each Pot about two Inches deep or more, according to their Strength; then give them a little Water to settle the Earth close about them, and set the Pots in a warm shady Place for about a Week, to prepare the Cuttings for putting forth Roots; after which they should be plunged into a moderate Hot-bed of Tanners Bark, which will greatly facilitate their rooting; but observe to give them Air, by raising the Glasses at all times when the Weather will permit; as also to shade the Glasses in the Heat of the Day.

In about a Month's time after planting, these Cuttings will be rooted, when you must begin to expose them to the open Air by degrees; after which they may be removed to a well-defended Place, observing not to set them into a Place too much exposed to the Sun, until they have been enured to the open Air for some time.

In this Place the Plants may remain until the Beginning of *October*; at which time you should remove them into the Conservatory, placing them as near the Windows as possible at first, letting them have as much free open Air as the Season will per-

mit, by keeping the Windows open whenever the Weather is good: and now you must begin to abate your Watering, giving it to them sparingly, especially the fifth Sort, which is so very succulent, that upon its having a little too much Water in Winter, it will certainly rot; but you should not suffer its Leaves to shrink for want of Moisture, which is another Extreme some People run into for want of a little Observation; and when they are suffered to shrink for want of Water, they seldom fail to rot when they have Water given them. This Sort should be placed in a moderate Stove in Winter, nor must it be set abroad till Midsummer; for it is much tenderer than any of the others.

The other Plants are all of them pretty hardy, except the fifth Sort (which must have a moderate Stove in Winter), and may be preserved without any artificial Heat in the Winter. The best Method to treat these Plants is, to place them in an open airy dry Glais-frame, among *Ficoides's* and *African* Houseleeks, where they may enjoy as much of the Sunshine as possible, and have a free dry open Air; for if these are placed in a common Green-house amongst shrubby Plants, which perspire freely, it will fill the House with a damp Air, which these succulent Plants are apt to imbibe; and thereby becoming too replete with Moisture, do often cast their Leaves; and many times their Branches also decay, and the whole Plant perishes.

The fifth Sort, as was before-mention'd, must be preserved in a moderate Stove, with *Aloes*, *Cereus's*, &c. which may be kept up to the temperate Heat as mark'd on the Botanical Thermometers: this must have very little Water in Winter, and

and be planted in a very dry sandy Soil.

The fourth Sort produces the most beautiful Flowers of any of the Sorts, and deserves a Place in every good Collection of Plants; as do the second, third, fifth, and sixth, for the regular Beauty of their Stems, and large fair thick succulent Leaves; and the second, third, and sixth Sorts produce very fair handsome Bunches of Flowers, but they seldom produce Seeds in *England*.

The ninth Sort is very like to the seventh, in its outward Appearance; but differs from that in having Numbers of dark Spots all over the Leaves, and the Leaves are larger, and more succulent: this is somewhat tenderer than that, and more impatient of Moisture in Winter; but in other respects may be propagated from Cuttings, and treated in the same manner as is directed for that Sort.

The tenth Sort seldom grows above a Foot and an half high, branching out in many Stems from the Bottom; the Leaves are in Shape somewhat like those of Purslane, but are much thicker, and more succulent: this Sort seldom flowers with us, but may be propagated easily by Cuttings during any of the Summer-months; and in Winter may be managed as hath been directed for the former Sorts.

The eleventh Sort is much more hardy than any of the last-mentioned Sorts, and will endure the Cold of our ordinary Winters in the open Air, if the Plants grow upon a dry Soil; so this may be propagated upon the Walls of Gardens in the same manner as the first Sort.

COURBARIL, The Locust-tree, *vulgo*.

The Characters are;

It hath a papilionaceous Flower,

from whose Calyx arises the Pointal; which afterward becomes an uncap-sular hard Pod, including roundish hard Seeds, which are surrounded with a fungous stringy Substance.

We know but of one Species of this Plant; *viz.*

COURBARIL *bifolia*, *flore pyrami-dato*. *Plum. Nov. Gen.* Courbaril with two Leaves set together, and a pyramidal Flower, commonly called Locust-tree by the *English* Inhabitants of *America*.

The Pods of this Tree are frequently brought from the Islands of *America*, by the Title of Locust; from the Seeds of which these Plants may be raised. These Seeds should be sown on an Hot-bed early in the Spring; and when the Plants are come up, they should be very carefully taken up, and each planted into a small Pot filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, observing to shade them until they have taken Root; after which time they should have Air and Water in proportion to the Warmth of the Season; but they will not bear to be quite exposed to the open Air in *England*, even in the hottest Part of Summer. In Winter these Plants must be removed into the Bark-stove, and plunged into the Tan, amongst the tenderer Sorts of Exotic Plants; and during that Season they should be frequently refreshed with Water, but it must not be given them in large Quantities; for they are impatient of much Wet, especially when they are destitute of Leaves. If these Plants are continued in the Bark-stove, and shifted into larger Pots as they increase in Size, they may be preserved; but I believe it will be many Years before they will produce Flowers in *Europe*; for they are of a very slow Growth, after the first six Months, being in

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this respect like the Acajou, which generally makes great Progress during the first Summer from Seeds, but afterward remains for a long time without making any Shoots: they are also difficult to transplant; for they seldom have many Fibres to their Roots; so that in shifting them Care must be taken not to divest their Roots of the Earth, as also not to put them in Pots too large, in both which Cases they are often destroyed.

COWSLIP. *Vide Primula Veris.*

CRAB-TREE. *Vide Malus.*

CRAMBE, Sea cabbage.

The Characters are;

It hath fleshy Leaves like those of the Cabbage: the Flowers are white, consisting of four Leaves: the Pointal afterward turns to a roundish Fruit, which terminates in a Point, having but one Cell, in which is contained one oblong Seed.

The Species are;

1. CRAMBE *maritima, brassicæ folio.* Tourn. Sea-colewort or Cabbage, or Sea-kale.

2. CRAMBE *Orientalis, dentis leonis folio, erucaginis facie.* T. Cor. Eastern Sea-colewort, with a Dandelion-leaf, and the Face of Wild-rocket.

3. CRAMBE *Orientalis, acanthi folio.* Cor. Inst. Eastern Sea-cabbage, with a Bear's-breech-leaf.

The first of the Species is found wild upon Sea-shores in divers Parts of England; but particularly in *Sussex* and *Dorsetshire* in great Plenty, where the Inhabitants gather it in the Spring to eat, preferring it to any of the Cabbage Kind, as it generally grows upon the gravelly Shore, where the Tide flows over it; so the Inhabitants observe where the Gravel is thrust up by the Shoots of this Plant, and open the Gravel, and cut the Shoots before they come out,

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and are expos'd to the open Air, whereby the Shoots appear as if they were blanched; and when they are cut so young, they are very tender and sweet; but if they are suffered to grow till they are green, they become tough and bitter.

This Plant may be propagated in a Garden, by sowing the Seeds, soon after it is ripe, in a sandy or gravelly Soil, where it will thrive exceedingly, and increase greatly by its creeping Roots, which will soon overspread a large Spot of Ground, if encouraged; but the Heads will not be fit to cut until the Plants have had one Year's Growth; and, in order to have it good, the Bed in which the Plants grow, should, at *Michaelmas*, be covered over with Sand or Gravel about four or five Inches thick, which will allow a proper Depth for the Shoots to be cut before they appear above-ground; and if this is repeated every Autumn, in the same manner as is practised in earthing of Asparagus-beds, the Plants will require no other Culture. This may be cut for Use in *April* and *May*, while it is young; but if the Shoots are suffered to remain, they will produce fine regular Heads of white Flowers, which appear very handsome, and will perfect their Seeds, by which they may be propagated.

The second and third Sorts are only preserved in curious Gardens of Plants for Variety; but are not of any Use or Beauty.

CRANE'S-BILL. *Vide Geranium.*

CRASSULA, Lesser Orpine or Houseleek. This Name was formerly applied to the *Anacampteros* or Orpine.

The Characters are;

It hath the Appearance of Houseleek or Navelwort: from the first it differs

fers in having a Flower of one Leaf; and from the latter of which it only differs in having a short tubulous Flower, consisting of one Leaf.

The Species are;

1. *CRASSULA altissima perfoliata*. Hort. Elth. Tallest Crassula, with Leaves surrounding the Stalks, commonly called *Aloe perfoliata*.

2. *CRASSULA anacamperotis folio*. Hort. Elth. Crassula with an Orpine-leaf.

3. *CRASSULA portulacæ facie, arborescens*. Hort. Elth. Tree-like Crassula, with the Face of Purslain, commonly called the Purslain-tree.

4. *CRASSULA caeposa longifolia*. Hort. Elth. Onion-like Crassula with a long Leaf.

5. *CRASSULA caulescens, foliis sempervivi cruciatis*. Hort. Elth. Stalky Crassula, with Housleek-leaves.

6. *CRASSULA mesembrianthemifacie, foliis longioribus asperis*. Hort. Elth. Crassula with the Face of Ficoides, and long rough Leaves.

7. *CRASSULA orbicularis repens, foliis sempervivi*. Hort. Elth. Creeping orbicular Crassula, with Housleek-leaves.

8. *CRASSULA portulacæ facie, repens*. Hort. Elth. Creeping Crassula, with the Appearance of Purslain.

9. *CRASSULA foliis subulatis obsolete tetragonis*. Lin. Hort. Cliff. Upright branching Crassula, with Leaves almost square.

These Plants have been ranged under different Genera, by former Botanists, till Dr. Dillenius constituted this Genus, and brought them together. The first Sort was put under the Aloe; the second under the Cotyledon; the third, fourth, fifth, seventh, and eighth Sorts under the Sedum; the sixth and ninth Sorts were ranged under Ficoides: the Reason of this was, that the Plants

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had not then produced Flowers in Europe; so they had classed them by the outward Face of the Plants.

These Plants are Natives of the Cape of Good Hope, from whence they were brought into the European Gardens. The first, third, and fifth Sorts will grow to be shrubby: the first doth not send forth any Side-branches, unless the Top be cut off, or some way injured; but it may be trained up six or eight Feet high, if it is supported with a Stake. The third Sort grows almost in a pyramidal Form, and the Stalks and Leaves have the Appearance of Purslain. The ninth Sort grows very bushy, and the Stalks are very full of Joints, and so brittle, that on the Touch they break, and the Pieces which fall on the Ground will take Root, so that it is easily propagated. The other Sorts are of lower Growth, most of them trailing on the Ground. The eighth Sort doth not continue above two Years; but it frequently ripens Seed, which, if permitted to scatter upon the Earth in the Pots, and they are sheltered in Winter, will produce young Plants, whereby the Kind may be easily preserved.

The third Sort has not produced any Flowers in this Country, that I could ever hear; but, from the Appearance of the Plant, it is ranged under this Genus.

All these Sorts may be easily propagated, by planting their Cuttings, in any of the Summer-months, on a shady Border, where they will soon take Root, and may be then potted in a sandy rubbishing Earth; and must be treated in the same manner as the Ficoides's, to which I shall refer the Reader, to avoid Repetition.

CRATÆGUS, The Wild-service.

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The Characters are;

The Leaves are single: the Flower consists of five Leaves, which expand in form of a Rose: the Fruit is small, and shaped like a Pear, in which are contained many hard Seeds.

The Species are;

1. *CRATÆGUS folio laciniato*. Tourn. The common or Wild-service.

2. *CRATÆGUS folio subrotundo serrato, subtus incano*. Tourn. The white Beam-tree, or *Aria Theophrasti*.

3. *CRATÆGUS folio oblongo serrato utrinque virenti*. Inst. R. H. Wild-service with an oblong sawed Leaf, which is green on both Sides.

4. *CRATÆGUS Virginiana, foliis arbuti*. Tourn. The Virginian Wild-service, with Leaves like the Strawberry-tree.

The first of these Trees is very common in divers Parts of *England*, growing in Woods, &c. The Leaves of this Tree are very like those of the lesser Maple, from whence some Gardeners have given it the Name of *Maple-leav'd Service*: the Fruit grow in Bunches, and are about the Bigness of black Cherries, which are sometimes sold in the Markets in Autumn, and are by some People eaten as Medlars, &c. but have somewhat of an austere Taste.

This Sort is found growing wild in several Parts of *England*, but chiefly on strong stiff Land, where it often grows to the Height of thirty Feet, or upward; but this is not very common in Gardens.

The second Sort is also a Native of *England*, growing chiefly on chalky Land; especially in *Sussex* and *Kent*, where the Inhabitants call it the White-leaf-tree, on account of the silver Colour on the Under-side of the Leaves: this Tree grows about thirty Feet; but the Head is generally formed more in a Pyramid

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than the former, resembling in Growth the Pear-tree: the Fruit of this Tree is not quite so large as those of the first Sort, but in other respects greatly resembles it.

The third Sort is not a Native of *England*, and at present is very rare in the *English* Gardens: the Leaves of this Sort are broader, and not so long as those of the second Sort, and are green on both Sides. I have not as yet seen the Fruit of this Sort; so cannot say how it differs from those of the former.

All these Sorts may be propagated by sowing their Seeds, soon after they are ripe, on a Bed of common Earth, where the Plants will come up in the Spring; and if they are duly watered in dry Weather, and kept clear from Weeds, they will make good Progress the same Year; and in the Autumn, when the Leaves decay, the Plants may be transplanted into a Nursery, allowing three Feet Row from Row, and planting them one Foot asunder in the Rows: in this Nursery the Plants may remain two Years; in which time, if the Ground is good, and they are kept clear from Weeds, they will be strong enough to transplant where they are to remain for good; for these Trees do not transplant well, when they remain too long unre-moved.

These Sorts may be propagated by budding or grafting them, either upon Stocks of the Hawthorn or Medlar, upon both which these will take: and this is a more expeditious Method of propagating these Trees, than by Seeds or Layers; and the Trees which are so raised, may be trained up with better Stems, and these will not be liable to shoot up Suckers, as those Plants will do, which are raised from Suckers.

The *Virginian Wild-service* is somewhat tender while young, during which time it will require a little Shelter, but may afterwards be transplanted into the full Ground, where, if it is not too much exposed, it will thrive very well, and endure our severest Colds. This may be propagated by Seeds, as the former, or from Layers and Suckers; and may also be budded or inarched into any of the former Sorts.

This is a very humble Shrub with us in *England*, seldom rising above three Feet high; but will often produce Fruit before the Plant is one Foot high: the Flowers and Fruit of this Sort are not produced in large Bunches, as are those of the former Sorts; but are four or five at most in each Bunch, tho' the single Fruits are not much less than those of the second Sort. This Sort is yet pretty rare in the *English* Gardens.

CRESSES, GARDEN. *Vide Nasturtium.*

CRESSES, INDIAN. *Vide Acriviola.*

CRESSES, WATER. *Vide Symbrium.*

CRINUM, Lily-asphodel.

This Name is given by Dr. *Linneus*: the other of *Lilio-asphodelus*, by which it had formerly been called, being a compound Name, he has rejected.

The Characters are;

The Umbel of Flowers is included in one common Cover, which is cut into two Parts, and is reflexed when the Flowers come out: the Flower is of one Leaf, and is funnel-shaped, and cut into six Parts at the Brim; three of which, being alternately placed, are crooked: from the Bottom of the Flower arise six long Stamina, fasten'd to the Tube of the Flower: at the Bottom of the Flower is situated the Pointal, which afterward becomes an

oval Seed-vessel, divided into three Cells, each having a single Seed.

We have but one Sort of this at present in the Gardens;

CRINUM. *Lin. Hort. Cliff. American* Asphodel - lily, with many white Flowers.

This Plant is a Native of *America*, from whence the Roots have been brought into the *English* Gardens: it is pretty tender; so requires a Stove to preserve it, otherwise it will not live in this Country: if these Plants are put into pretty large Pots, and plunged into the Tan-bed in the Stove, they will increase very fast by their creeping Roots, and will produce Plenty of Flowers: the Stems of these Flowers commonly rise two Feet high, and produce very large Clusters of white Flowers, having a narrow Stripe of Purple on the Outside of the Petals; these have a strong sweet Scent, but are of a short Duration, rarely continuing in Beauty above three or four Days; but when the Plants are kept in a moderate Degree of Warmth, they will produce Flowers at several times of the Year; so are worthy of a Place in Gardens where there are proper Conveniencies to keep them: they also produce ripe Seeds in *England*, which may rather be called Bulbs than Seeds.

CRITHMUM, Samphire.

The Characters are;

The Leaves are thick, succulent, narrow, branchy, and trifid: the Flowers grow in an Umbel, each consisting of five Leaves, which expand in form of a Rose: the Empalement of the Flower becomes a Fruit, consisting of two plain and gently streaked Seeds.

We have but one Species of this Plant common in *England*; which is,

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CRITHMUM, *five fœniculum maritimum minus*. Smaller Samphire, or Sea-fennel.

This Plant grows in great Plenty upon the Rocks near the Sea-shore, where it is wash'd by the Salt-water; but will not grow to any Strength in a Garden, tho' it may be preserv'd several Years, and propagated by parting its creeping Roots in the Spring. This should be planted in Pots filled with gravelly coarse Soil, and in Summer plentifully watered: in this Management it will grow tolerably well, and produce Flowers; but rarely perfects its Seeds in a Garden, nor is the Herb near so good for Use as that gathered from the Rocks. This Plant is greatly esteemed for pickling, and is sometimes used in Medicine.

CRISTA GALLI. *Vide Pedicularis*.

CRISTA PAVONIS. *Vide Poinciana*.

CROCUS, Saffron.

The Characters are;

It hath a Flower consisting of one Leaf, which is shaped like a Lily, fistulous underneath, the Tube widening into six Segments, and resting on the Footstalk: the Pointal rises out of the Bottom of the Flower, and is divided into three headed and crested Capillaments; but the Empalement afterward turns to an oblong triangular Fruit, divided into three Cells, and is full of roundish Seeds: to these Marks must be added, It hath a tuberose Root, and long narrow grassy Leaves, with a longitudinal white Furrow thro' the Middle of each.

In giving a List of their several Names, I shall divide them into two Classes; in the first of which I shall place all the Spring-flowering Crocus's nearly in the Order of their Flowering; and, in the second, shall insert those which flower in Autumn,

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amongst which will come the true Saffron.

1. **CROCUS vernus striatus vulgaris**. *Park. Par.* The ordinary striped Crocus, commonly called, the *Scotch Crocus*.

2. **CROCUS vernus luteus versicolor primus**. *Park. Par.* The best Cloth of Gold Crocus.

3. **CROCUS vernus latifolius flavus**. *C. B.* The *Dutch yellow Crocus*.

4. **CROCUS vernus minor albicans**. *C. B.* Small whitish Spring Crocus.

5. **CROCUS vernus, flore albo, purpureo-violacea basi**. *C. B.* Spring Crocus, with a white Flower, and a purple-violet Bottom.

6. **CROCUS vernus latifolius, flavo-vario flore duplici**. *Clus. Hist.* The double Cloth of Gold Crocus.

7. **CROCUS vernus latifolius flavus, flore minore & pallidiore**. *C. B.* Spring Crocus, with smaller pale-yellow Flowers.

8. **CROCUS vernus latifolius flavo-varius**. *C. B.* Spring Crocus, with yellow variable Flowers.

9. **CROCUS vernus angustifolius, magno flore candido**. *C. B.* Narrow-leav'd Spring Crocus, with large white Flowers.

10. **CROCUS vernus albus striatus**. *Park. Par.* The white-striped Crocus.

11. **CROCUS vernus albus polyanthos versicolor**. *Park. Par.* The particolour'd Crocus, with many Flowers.

12. **CROCUS vernus latifolius, flore penitus albo, ad infundibulum parum cœrulescente**. *Boerb. Ind.* White-father'd Crocus, *vulgo*.

13. **CROCUS vernus latifolius, flore purpureo magno**. *C. B.* Broad-leav'd Spring Crocus, with a large purple Flower.

14. **CROCUS vernus latifolius purpureus variegatus**. *C. B.* Broad-leav'd Spring

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Spring Crocus, with a purple-striped Flower.

15. *CROCUS vernus latifolius, flore caeruleo, lineis violaceis variegato.* C. B. Broad-leav'd Spring Crocus, with a blue Flower, striped with Violet.

16. *CROCUS vernus latifolius, albus vel cinericeus.* C. B. Broad-leav'd Spring Crocus, with a white or ash-colour'd Flower.

17. *CROCUS vernus latifolius purpureo-violaceus.* C. B. The lesser purple violet-colour'd Crocus, with broad Leaves.

18. *CROCUS vernus latifolius parvus, flore extus pallido, cum lituris purpureis, intus caerulefcente pallido.* Boerb. Ind. Broad-leav'd Spring Crocus, with a small Flower of a pale Colour on the Outside, with purple Stripes, and the Inside of a pale-blue Colour.

19. *CROCUS vernus angustifolius, parvo flore.* C. B. Narrow-leav'd Spring Crocus, with a small purple Flower.

20. *CROCUS vernus, capillari folio.* Clus. App. Spring Crocus, with a capillaceous Leaf.

There are several other Varieties of the Spring Crocus to be found in the curious Gardens of the Florists, which are seminal Productions; for there may be as great Variety of these Flowers raised from Seeds, as there is of Hyacinths, Iris's, &c. were we curious in saving and sowing the Seeds of all the different Kinds. The manner of sowing these Seeds being exactly the same with the Xiphium, I shall refer the Reader to that Article for farther Instructions; but shall observe here, that the Seeds should be sown soon after they are ripe.

All these several Varieties of Crocus's are very hardy, and will increase exceedingly by their Roots,

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especially if they are suffered to remain two or three Years unremoved: they will grow in almost any Soil or Situation, and are very great Ornaments to a Garden early in the Spring, before many other Flowers appear. They are commonly planted near the Edges of Borders on the Sides of Walks: in doing of which, you should be careful to plant such Sorts in the same Line as flower at the same time, and are of an equal Growth, otherwise the Lines will seem imperfect. These Roots, losing their Fibres with their Leaves, may then be taken up, and kept dry until the Beginning of September, observing to keep them from Vermin; for the Mice are very fond of them. When you plant these Roots, after having drawn a Line upon the Border, make Holes with a Dibble about two Inches deep or more, according to the Lightness of the Soil, and two Inches Distance from each other, in which you must place the Roots with the Bud uppermost; then with a Rake fill up the Holes in such a manner as that the Upper-part of the Root may be covered an Inch or more, being careful not to leave any of the Holes open; for this will entice the Mice to them, which, when once they have found them out, will destroy all your Roots, if they are not prevented.

In January, if the Weather is mild, the Crocus will appear above-ground; and in February their Flowers will appear, before the green Leaves are grown to any Length; so that the Flower seems at first to be naked; but soon after the Flowers decay, the green Leaves grow to be six or eight Inches long, which should not be cut off until they decay, notwithstanding they appear a little unsightly; for by cutting off the Leaves, the Roots will be so weaken'd, as

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not to arrive at half their usual Bigness; nor will their Flowers the succeeding Year be half so large: their Seeds are commonly ripe about the Latter-end of *April*, or the Beginning of *May*, when the green Leaves begin to decay.

The second Class, or Autumnal Crocus's.

1. CROCUS *sativus*. C. B. The true Saffron.

2. CROCUS *Alpinus autumnalis*. C. B. Autumnal Crocus of the Alps.

5. CROCUS *juncifolius autumnalis*, *flore magno purpurascente*. Boerb. *Id.*

The Autumnal Crocus's are not so great Increasers as are those of the Spring, nor do they produce Seeds in our Climate, so that they are less common in the Gardens, except the true Saffron, which is propagated for Use in great Plenty in many Parts of *England*: these may be taken up every third Year, as was directed for the Spring Crocus's, but should not be kept out of the Ground longer than the Beginning of *August*; for they commonly produce their Flowers in *September*, or the Beginning of *October*; so that if they remain too long out of the Ground, they will not produce their Flowers so strong, nor in such Plenty, as when they are planted early.

CROTOLARIA.

The Characters are;

It hath single Leaves, in which it differs from Rest-harrow; and the Pods are turgid, in which it differs from Spanish Broom.

The Species are;

1. CROTOLARIA *Asiatica*, *folio singulari verrucoso, floribus cœruleis*.

H. L. Asiatic Cro-tolaria, with a single warted Leaf, and blue Flowers.

2. CROTOLARIA *Asiatica*, *folio singulari cordiformi, floribus luteis*.

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H. L. Asiatic Cro-tolaria, with an heart-shaped Leaf, and yellow Flowers.

3. CROTOLARIA *Africana*, *styracis folio, flore cœruleo*. Tourn. African Cro-tolaria, with a Leaf of the Storax-tree, and a blue Flower.

4. CROTOLARIA *sagittalis glabra, longioribus foliis, Americana*. Pluk. Phyt. American Cro-tolaria, with long smooth Spearwort-leaves.

5. CROTOLARIA *Americana*, *caule alato, foliis pilosis, floribus in thyrsis luteis*. Martyn. Decad. 5. American Cro-tolaria, with a winged Stalk, hairy Leaves, and yellow Flowers growing in a Spike.

6. CROTOLARIA *ari folio sagittato, flore luteo*. Plum. Cat. Cro-tolaria with a spear-shaped Arum-leaf, and a yellow Flower.

7. CROTOLARIA *ari folio sagittato, flore purpurascente*. Plum. Cat. Cro-tolaria with a spear-shaped Arum-leaf, and a purplish Flower.

8. CROTOLARIA *frutescens hirsuta, flore luteo, ramulis alatis, foliis mucronatis*. Houst. Shrubby hairy Cro-tolaria, with a yellow Flower, winged Branches, and pointed Leaves.

The three first-mentioned Sorts were brought from the *East-Indies*: they are all of them figured in the *Hortus Malabaricus*. These were much more common in the Gardens some Years ago than they are at present; for there having been two or three bad Seasons succeeding each other about the Year 1739. the Seeds of these Plants did not come to Maturity; whereby they are almost lost in *Europe*.

The other Sorts are Natives of *America*, from whence their Seeds have been introduced into *England*; where the Plants are preserved by some curious Persons.

The first, second, and fourth Sorts are annual: the Seeds of these
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must be sown on an Hot-bed early in the Spring; and when the Plants are come up, they must be transplanted into a fresh Hot-bed, and treated in the same manner as is directed for Amaranths, to which Article I refer the Reader, to avoid Repetition. If these are brought forward early in the Year, they will produce their Flowers in *July*, and perfect their Seeds in *September*; but if they are late, and the Autumn should prove bad, they will not live to ripen Seeds; therefore it is the better Way to place the Pots in a Bark-stove, which will bring them forward, and perfect their Seeds.

The third Sort will abide three or four Years, if preserved in a warm Stove, and will produce Flowers and Seeds annually, by which it may be propagated. All these Varieties are very ornamental to curious Gardens of Plants.

The three last Sorts are annual Plants, which should be raised on an Hot-bed early in the Spring; for if they are not brought forward at that Season, they seldom perfect their Seeds in this Country. As these Sorts are to be managed in the same manner as those which are before-mentioned; it is needless to repeat it here.

The fourth Sort will grow to the Height of six or seven Feet, provided the Plants are preserved in a warm Stove, otherwise they will not live thro' the Winter. These are propagated by Seeds, which should be sown on an Hot-bed early in the Spring; and when the Plants are come up an Inch high, they should be carefully transplanted into small Pots filled with fresh Earth, and plunged into an Hot-bed of Tanners Bark, observing to shade them until they have taken Root; after

which time they should have Air and Water in proportion to the Warmth of the Season. In this Bed they may remain until the Plants reach the Glasses, when they must be removed into the Bark-stove, observing to shift the Plants into larger Pots, as they shall require it.

CROWN IMPERIAL. *Vide* Corona Imperialis.

CRUCIATA, Cross-wort.

The Characters are;

It hath soft Leaves like the Ladys-bedstraw, from which it differs in the Number of Leaves which are produced at every Joint, which in this are only four, disposed in form of a Cross.

The Species are;

1. CRUCIATA *hirsuta*. C. B. Rough or hairy Cross-wort.

2. CRUCIATA *glabra*. C. B. Smooth Cross-wort.

3. CRUCIATA *Alpina latifolia laevis*. *Tourn.* Broad smooth-leav'd Cross-wort of the Alps.

4. CRUCIATA *Orientalis latifolia erecta glabra*. *T. Cor.* Upright and Oriental Cross-wort, with broad smooth Leaves.

The first of these Plants is sometimes used in Medicine: this is found wild in divers Parts of *England*, growing on dry sandy Banks.

The other Sorts are preserved in Botanic Gardens for the sake of Variety; but there is no great Beauty in them. They may all of them be easily propagated by Persons curious that way; for they spread and increase by their creeping Roots, or trailing Branches striking Root as they lie upon the Ground. They love a light sandy Soil.

CRUPINA BELGARUM. *Vide* Serratula.

CUCUBALUS, Berry-bearing Chickweed,

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The Characters are;

The Flower consists of five Leaves, which are bifid, and disposed in a circular Order: the Pointal becomes a soft oval-shaped Berry, which is included in the Flower-cup, as in a Bladder, and containing many kidney-shaped Seeds.

There is but one Species of this Plant; which is,

CUCUBALUS Plinii. Lugd. Berry-bearing Chickweed.

This Plant is of no great Use or Beauty, and is seldom preserved in Gardens, except for Variety-sake: it grows wild in many Parts of Germany, and hath also been found in the North of England. It is easily propagated by sowing the Seeds, or planting the Roots, which will in a short time overspread a large Spot of Ground, if suffered to remain; and it delights in a moist shady Place.

Dr. *Linnaeus* has joined to this Genus several Species of *Lychnis*, which agree in their Flowers with those of this Genus; but as the Fruit of this is a soft pulpy Berry, and those of the other Species which he has added having a dry Capsule, where the Fruit is admitted as a characteristic Note, these cannot be joined together.

CUCUMIS, The Cucumber.

The Characters are;

It hath a Flower consisting of one single Leaf, which is bell-shaped, and expanded towards the Top, and cut into many Segments, of which some are Male or barren, having no Embryo, but only a large Style in the Middle, which is charged with the Farina: others are Female or fruitful, being fasten'd to an Embryo, which is afterward changed into a fleshy Fruit, for the most part oblong and turbinated, which is divided into three

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or four Cells inclosing many oblong Seeds.

The Species are;

1. *CUCUMIS sativus vulgaris, maturo fructu subluteo. C. B.* The common Cucumber.

2. *CUCUMIS sativus vulgaris, fructu albo. C. B.* The white Cucumber.

3. *CUCUMIS oblongus. Dod.* The long Turkey Cucumber.

The first of these Kinds is the most common in the English Gardens, of which there are two or three Varieties, differing in the Length or Roughness of the outer Skin of the Fruit: but these being only accidental Sportings of Nature, I shall pass them over without making any Distinction of them.

The second Sort, which is by far the better Fruit, as being less watry, and containing fewer Seeds, is the most common Kind cultivated in Holland; for I do not remember to have seen one of our green Sort in any of the Markets in that Country.

The third Sort is propagated in some curious Gardens, for the uncommon Length of its Fruit, and also its having less Water, and fewer Seeds: but it is not so fruitful as the common Kind, nor will it come so early.

The common Sort is cultivated in three different Seasons: the first of which is on Hot-beds under Garden-frames, for early Fruit: the second is under Bell or Hand-glasses, for the middle Crop: and the third is in the common Ground, for a late Crop, or to pickle.

I shall begin with giving Directions for raising Cucumbers early, which is what most Gentlemens Gardeners have an Emulation to exceed each other in; and some have been

at the Pains and Expence to have this Fruit in every Month of the Year; which is rather a Curiosity than any real Advantage; for Cucumbers that are produced before *April* cannot be so wholesome as those that are later: for before the Sun hath Strength enough to warm the Beds thro' the Glasses in the Day-time, all the Force must proceed from the Fermentation of the Dung, which must consequently occasion a very considerable Steam, as also a great Quantity of Air will be thereby generated, which, being pent up in the Hot bed, soon becomes rancid; and the Steam of the Bed being by the Cold of the Night condensed into large Drops of Water, these, being absorb'd or inspir'd by the Plants, must certainly make the Fruit crude and unhealthy, especially when the Nights are very long. This, together with the great Expence and Trouble of procuring them earlier, having almost got the better of Peoples Ambition, hath render'd it less practis'd than it hath been some Years since. I shall begin with giving plain Directions how to procure Plenty of good handsome Fruit in *April*.

Towards the latter End of *January* you must provide a Quantity of new Horse-dung, with the Litter mixed together (in proportion to the Number of Plants you intend to raise, which if for a private Family, two Loads will be full enough): this should be thrown into an Heap, mixing a few Sea-coal Ashes therewith; in about four or five Days after, the Dung will begin to heat, at which time you may draw a little Part of the Heap on the Outside flat, laying thereon a little good Earth, about two Inches thick; this you should cover with a Bell-glass, laying a little dry Litter thereon; and

in a Day or two after, when you perceive the Earth to be warm, you must put your Seeds therein, covering them about a quarter of an Inch, with the same Earth; then put the Glass on again: and also at Night, or in bad Weather, observe to cover the Glass with dry Litter or Mats, &c. and in three or four Days time (if the Dung be in a good Temper of Heat) the Plants will appear above-ground; which when you first observe, you must immediately with the adjoining Heap of Dung make a Bed of one single Light, being careful not to take the Dung away too close to the Bell-glass, but observing to lay a little Dung round about it, as also to keep it covered, that the young Plants may not receive a Check thereby. This Hot-bed will require to be three Feet thick in Dung at least, which, in the making, should be carefully mixed, and beat pretty close with the Fork, to prevent the Heat from being too sudden and violent: then lay some fresh Earth upon the Dung, about three Inches thick, levelling it very even, and put on the Frame, covering it over in the Night, or in bad Weather, with a Mat, &c. as before, in order to excite an Heat in the Bed; and as soon as you perceive the Bed to be in a good kindly Temper of Heat, you should prick your young Plants thereon, at about two Inches Distance each Way, observing to put them into the Earth almost up to their Seed-leaves.

If the Bed is of a good Temper for Heat, your Plants will take Root in less than twenty-four Hours; after which time you must be careful to let in a little Air, at such times when the Weather will permit, as also to turn the Glasses upside downwards every Day to dry; for the Steam of the Bed, condensing on the Glasses,

will

will fall down upon the Plants, and be very injurious to them; and therefore whenever the Weather is so bad as not to permit the Glasses to lie turned long, you should at least turn them once or twice a Day, and wipe off the Moisture with a woollen Cloth; but you must also be very careful how you let in too much cold Air, which is equally destructive to the tender Plants; therefore, to avoid this, it is a very good Method to fasten before the upper Side of the Frame, where the Air is suffered to enter the Bed, a Piece of coarse Cloth, or a Mat, so that the Air which enters may pass through that, which will render it less injurious to your Plants.

You must also be very cautious in giving Water to the Plants while young; and whenever this is done, it should be sparingly, and the Water should be placed either into an Heap of Dung, or in some other warm Place, for some time before it is used, so as to be nearly of a Temperature for Warmth with the inclosed Air of the Hot-bed; and as the Plants advance in Height, you should have a little dry sifted Earth always ready, to earth up their Shanks, which will greatly strengthen them. You must also be very careful to keep up the Heat of the Bed; which if you should find decline, you must lay a little fresh Litter round about the Sides of the Bed, and also keep the Glasses well covered in the Nights, or in bad Weather: but if, on the other hand, your Bed should prove too hot, you should thrust a large Stake into the Side of the Dung in two or three Places, almost to the Middle of the Bed, which will make large Holes, thro' which the greatest Part of the Steam will pass off without ascending to the Top of the Bed; and

when you find it has answered your Purpose by slackening the Heat of your Bed, you must stop them up again with Dung.

These Directions, if carefully attended to, will be sufficient for raising the Plants in the first Bed: you must therefore, when you perceive the third rough Leaf begin to appear, prepare another Heap of fresh Dung, which should be mixed with Ashes, as was before directed: this should be in Quantity according to the Number of Holes you intend to make. The common Allowance for ridging out the earliest Plants is, one Load to each Light or Hole, so that the Bed will be near three Feet thick in Dung; but for such as are not ridged out till *March*, two Loads of Dung will be sufficient for three Holes; for I could never observe any Advantage in making these Beds so thick with Dung as some People do: their Crops are seldom better, if so good, as those which are of a moderate Substance; nor are they forwarder, and the Fruit is rarely so fair; nor do the Vines continue so long in Health.

In making these Beds, you must carefully mix the Dung, shaking it well with the Fork, so as not to leave any Clods of Dung unseparated, as also to beat it down pretty close, to prevent the Steam from rising too hastily; you must also be careful to lay it very even, and to beat or press down the Dung equally in every Part of the Bed, otherwise it will settle in Holes, which will be very hurtful. When you finish laying the Dung, you must make an Hole exactly in the Middle of each Light, about a Foot deep, and eight or nine Inches over; these Holes must be filled with fresh light Earth, which should be screened to take out all large Stones, Clods,

&c. laying it up in an Hill; and in the middle of each thrust in a Stick about eighteen Inches long, which should stand as a Mark, to find the exact Place where the Hole is; then earth the Bed all over about three Inches thick, levelling it smooth, and afterwards set the Frame upon it, covering it with Glasses: but if there is any Apprehension of the Dung heating too violently, the Earth should not be laid upon the Bed until the Heat is somewhat abated, which will be in a few Days, and then the Earth may be laid upon the Bed by degrees, covering it at first one Inch thick; and a Week or ten Days after another Inch in Thickness may be laid on; but there should be the whole Thickness of Earth laid upon the Bed before the Vines begin to run: and if this Thickness of Earth is at last five or six Inches, the Vines will grow the stronger for being so thick; for if the Roots are observed, they will be found to spread and cover the whole Bed as much as the Vines extend: and when the Earth is very shallow, or too light, the Vines will hang their Leaves every Day, for want of a sufficient Depth of Earth to support their Roots; so that if they are not constantly and well watered, they will not have Strength to last long, or to produce fair Fruit; and the giving them too much Water is not so proper, nor will it answer near so well, as the giving a Depth of Earth upon the Dung.

In four or five Days time your Bed will be in fit Order to receive your Plants; of which you may easily judge by pulling out one of the Sticks which was put in the Middle of the Holes, and feeling the lower Part of it, which will satisfy you what Condition your Bed is in: then you must stir up the Earth in

the Middle of the Hole with your Hand, breaking all Clods, and removing all large Stones, making the Earth hollow in form of a Bason. Into each of these Holes you must plant four Plants; in doing of which, observe to make the Holes for the Plants a little slanting towards the Middle of the Bason, especially if your Plants are long-shanked: this is intended to place the Roots of the Plants as far as possible from the Dung, to which if they approach too near, the lower Part of their Roots is subject to be burned off: then settle the Earth gently to each Plant; and if the Earth is dry, it will be proper to give them a little Water (which should be warm'd to the Temper of the Bed, as was before directed); and if the Sun should appear in the middle of the Day, they should be shaded therefrom with Mats until the Plants have taken Root, which will be in two or three Days; after which, you must let them enjoy as much of the Sun as possible, observing to turn the Lights in the Day-time to dry, as also to give a little Air whenever the Weather will permit.

You must also observe to keep the Glasses covered every Night, and in bad Weather; but be very careful not to keep them covered too close, especially while the Bed has a great Steam in it, which will cause a Damp to settle upon the Plants, which, for want of Air to keep the Fluid in Motion, will stagnate and rot them.

When your Plants are grown to be four or five Inches high, you must, with some slender forked Sticks, incline them toward the Earth, each one a separate Way; but this must be done gently at first, lest by forcing them too much, you should strain or break the tender Vessels of
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the Plants, which would be very hurtful to them. In this manner you should, from time to time, observe to peg down the Runners as they are produced, laying each in exact Order, so as not to interfere or cross each other; nor should you ever after remove them from their Places, or handle them too roughly; whereby the Leaves may be broken or displaced; which is also equally injurious to them; but whenever you have occasion to weed the Bed between the Plants, do it with great Care, holding the Leaves aside with one Hand, while with the other you pull out the Weeds.

In about a Month after they are ridged out, you may expect to see the Beginnings of Fruit, which very often are preceded by Male Flowers, which many People are so ignorant as to pull off, calling them false Blossoms: but this I am fully convinced, by many Experiments, is wrong; for these Flowers are of absolute Service to promote the Welfare of the Fruit; which, when these Male Flowers are intirely taken off, does very often fall away, and come to nothing: nor should the Vines be pruned, as is too often the Practice of unskilful People, especially when they are too luxuriant, which often happens when the Seeds were fresh, or of the last Year's sowing, and the Plants in good Heart. If this should happen to be the Case, it would be very proper to pull up one or two of the Plants, before they have run so far as to entangle with the others; for it often happens, that two or three Plants are better than four or five, when they are vigorous; for when the Frame is too much crouded with Vine, the Fruit is seldom good, nor in such Plenty, as when there is a more moderate Quantity of Shoots: for

the Air being hereby excluded from the Fruit, they often spot and decay, or fall off very young.

You must also be very careful to cover the Glasses every Night when your Fruit begins to appear, as also to lay a little fresh Litter or Mowings of Grass round the Sides of the Bed, to add a fresh Heat thereto; for if the Heat of the Bed be spent, and the Nights prove cold, the Fruit will fall away, and come to nothing: and when the Sun is extreme hot, in the Middle of the Day, you must cover the Glasses with Mats to shade the Vines; for tho' they delight in Heat, yet the direct Rays of the Sun, when it has great Force, are very injurious, by either scorching those Leaves which are near the Glasses, or by causing too great a Perspiration, whereby the extreme Part of the Shoots, and the large Leaves, are left destitute of Nourishment, and the Fruit will be at a Stand, and often turn yellow before it arrives at half its Growth. But this is more general where the Beds are earthed very shallow; for when there is a sufficient Thickness of Earth upon the Dung, the Plants will bear the full Sun, without any hanging of their Leaves.

At this time, when your Vines are spread, so as cover the Hot-bed, it will be of great Service, when you water them, to sprinkle them all over gently so as not to hurt the Leaves; but observe to do this not at a time when the Sun is very hot; for hereby I have known a whole Bed of Cucumbers spoiled; for the Water remaining upon the Surface of the Leaves in Drops, doth collect the Rays of the Sun as it were to a Focus, and so scorches the Leaves, that in one Day's time they have, from a bright Green, become of the Colour of brown Paper.

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The watering of the Beds all over will be of great Service, by giving Nourishment to those Roots, which by this time will have extended themselves all over the Bed: and if the Warmth of the Bed should now decline, it will be of great Service to add a Lining of fresh Dung round the Sides of the Beds, to give a new Heat to them: for as the Nights are often cold at this Season, where the Beds have not a kindly Warmth left in them, the Fruit will frequently drop off the Vines, when grown to the Size of a little Finger: and if upon this Lining of Dung there is a Thickness of strong Earth laid for the Roots of the Plants to run into, it will greatly strengthen them, and continue the Plants in Vigour a much longer time than they otherwise will do; for the Roots of these Plants extend to a great Distance when they have room, which they cannot have in a Bed not more than five Feet wide; so that when they have no greater Extent for their Roots, the Plants will not continue in Vigour above six Weeks, which, if they have a Depth and Extent of Earth, will continue three Months in bearing; so that where there are several Beds made near each other, it will be the best Way to fill up the Bottom of the Alleys between them with warm Dung, and cover that with a proper Thickness of Earth, so as to raise them to the Level of the Beds.

These Directions, with diligent Observation, will be sufficient for the Management of this Crop of Cucumbers: and Vines thus treated will continue to supply you with Fruit till the Beginning of *July*, by which time the second Crop will come to bear; the Sowing and Managing of which is what I shall next proceed to.

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About the Middle of *March*, or a little later, according to the Earliness of the Season, you must put in your Seeds, either under a Bell-glass, or in the upper Side of your early Hot-bed; and when the Plants are come up, they should be pricked upon another moderate Hot-bed, which should be covered with Bell or Hand-glasses, placed as close as possible to each other; the Plants should also be prick'd at about two Inches Distance from each other, observing to water and shade them until they have taken Root, which will be in a very short time. This is to be understood of such Places where a great Quantity of Plants are required; which is constantly the Case in the Kitchen-gardens near *London*; but where it is only for the Supply of a Family, there may be Plants enough raised on the upper Side of the Beds where the first Crop is growing; or if the Vines should have extended themselves so far as to cover the whole Bed, whereby there will not be room to prick the Plants, a single Light will contain a sufficient Number of Plants while young, to plant out in Ridges, to supply the largest Family with Cucumbers during the whole latter Season. You must also cover the Glasses with Mats every Night, or in very bad Weather; but in the Day-time, when the Weather is hot, you must raise the Glasses with a Stone on the opposite Side from the Wind, to give Air to the Plants, which will greatly strengthen them: you must also water them as you shall find they require it; but this must be done sparingly while the Plants are young.

The Middle of *April* the Plants will be strong enough to ridge out; you must therefore be provided with an Heap of new Dung, in proportion to the Quantity of Holes you intend

to plant, allowing one Load to fix Holes. When your Dung is fit for Use, you must dig a Trench about two Feet four Inches wide, and in Length just as you please, or the Place will allow; and if the Soil be dry, it should be ten Inches deep; but if wet, very little in the Ground, levelling the Earth in the Bottom; then put in your Dung, observing to stir and mix every Part of it as was directed for the first Hot-beds, laying it close and even.

When this is done, you must make Holes about eight Inches over, and six Inches deep, just in the Middle of the Ridge, and three Feet and an half Distance from each other; and if there be more than one Ridge, the Distance of those ought to be eight Feet and an half from each other; then fill the Holes with good light Earth, putting a Stick into the Middle of each for a Mark, and afterward cover the Ridge over with Earth, about four Inches thick, laying the Earth the same Thickness round the Sides. When the Earth is levell'd smooth, you must set the Glasses on upon the Holes, leaving them close down about twenty-four Hours, in which time the Earth in the Holes will be warm'd sufficiently to receive the Plants; then with your Hand stir up the Earth in the Holes, making it hollow in form of a Bason; into each of which you should plant four Plants, observing to water and shade them until they have taken Root; after which time you must be careful to give them a little Air by raising the Glasses on the opposite Side to the Wind, in proportion to the Heat of the Weather, as also to water them as you shall see they require it; but you must only raise the Glasses in the Middle of the Day, until the Plants fill the Glasses; at which time you should

raise the Glasses with a forked Stick on the South Side in Height proportionable to the Growth of the Plants, that they may not be scorch'd by the Sun: this also will harden and prepare the Plants to endure the open Air; but you should not expose them too soon thereto; for it often happens, that there are morning Frosts in *May*, which are many times destructive to these Plants when exposed thereto; it is therefore the surest Method to preserve them under the Glasses as long as they can be kept in without Prejudice to the Plants: and if the Glasses are raised with two Bricks on the Back-side, and the forked Stick on the other Side, they may be kept in a great while without Danger.

Towards the Latter-end of *May*, when the Weather appears settled and warm, you should turn your Plants down gently out of the Glass; but do not perform this in a very dry hot sunny Day, but rather when there is a cloudy Sky, and an Appearance of Rain: you must in doing of this raise the Glasses either upon Bricks, or forked Sticks, whereby they may stand secure at about four or five Inches high from the Ground, that the Plants may lie under them without bruising; nor should you take the Glasses quite away until the Latter-end of *June*, or the Beginning of *July*; for these will preserve the Moisture much longer to their Roots than if they were quite exposed to the open Air: about three Weeks after you have turn'd the Plants out of the Glasses, they will have made a considerable Progress, especially if the Weather has been favourable; at which time you should dig up the Spaces of Ground between the Ridges, laying it very even; then lay out the Runners of the Vines in exact Order,
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and be careful in this Work not to disturb the Vines too much, nor to bruise or break the Leaves: this digging of the Ground will loosen it, and thereby make it easy for the Roots of the Plants to strike into it, as also render the Surface of the Earth more agreeable to the Vines that run upon it. After this there will be no farther Care needful, but only to keep them clear from Weeds, and to water them as often as they shall require, which they will soon shew, by the hanging of their greater Leaves. The Ridges, thus managed, will continue to produce large Quantities of Fruit from *June* until the Latter-end of *August*; after which time the Coldness of the Season renders them unwholesome, especially if the Autumn proves wet.

From these Ridges People commonly preserve their Cucumbers for Seed, by making choice of two or three of the fairest Fruit upon each Hole, never leaving above one upon a Plant, and that situated near the Root of it; for if you leave more, they will weaken the Plant so much, that your other Fruit will be small, and fewer in Number: but those Persons who value themselves upon producing Cucumbers very early, commonly leave three or four Cucumbers of the first Produce of their earliest Crop, when the Fruit is fair; and the Seeds of these early Fruit are generally prefer'd to any other for the first Crop. These should remain upon the Vines until the End of *August*, that the Seeds may be perfectly ripe; and when you gather them from the Vines, it will be proper to set the Fruit in a Row upright against an Hedge or Wall, where they may remain until the outer Cover begins to decay; at which time you should cut them open, and scrape out the Seeds, to-

gether with the Pulp, into a Tub, which should be afterwards covered with a Board, to prevent the Filth from getting amongst the Pulp. In this Tub it should be suffered to remain eight or ten Days, observing to stir it well with a long Stick to the Bottom every Day, in order to rot the Pulp, that it may be easily separated from the Seeds; then pour some Water into the Tub, stirring it well about, which will raise the Scum to the Top, but the Seeds will settle to the Bottom; so that by two or three times pouring in Water, and afterwards straining it off from the Seeds, they will be perfectly clear'd from the Pulp; then you should spread the Seeds upon a Mat, which should be exposed to the open Air three or four Days, until they are perfectly dry, when they may be put up in Bags, and hung up in a dry Place, where Vermin cannot come to them, where they will keep good for several Years, but are generally prefer'd when three or four Years old, as being apt to produce less vigorous, but more fruitful Plants.

I shall, in the next place, proceed to give Directions for managing Cucumbers for the last Crop, or what are generally called Picklers.

The Season for sowing these is toward the Latter-end of *May*, when the Weather is settled. The Ground where these are commonly sown, is between Cauliflowers, in wide Rows, between which are allow'd four Feet and an half Space when the Cauliflowers were planted. In these Rows you should dig up square Holes at about three Feet and an half Distance from each other, breaking the Earth well with a Spade, and afterwards smoothing and hollowing it in the Form of a Basin with your Hand; then put eight or

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nine Seeds in the Middle of each Hole, covering them over with Earth about half an Inch thick; and if it should be very dry Weather, it will be proper to water the Holes gently in a Day or two after the Seeds are sown, in order to facilitate their Germination.

In five or six Days, if the Weather be good, your Plants will begin to thrust their Heads above-ground; at which time you should be very careful to keep off the Sparrows, which are very fond of the young tender Heads of these Plants; and, if they are not prevented, will destroy your whole Crop: but as it is not above a Week that these Plants are in Danger, it will be no great Trouble to look after them during that time; for when the Plants are come up, and have expanded their Seed-leaves, the Sparrows will not meddle with them.

You must also be careful to water them gently, as you shall find the Drought of the Season doth require; and when you perceive the third or rough Leaf of the Plants begin to appear, you must pull out all the weakest Plants, leaving only five of the most promising and best situated in each Hole, stirring the Earth round about them with a small Hoe to destroy the Weeds, and raise the Earth about the Shanks of the Plants, putting a little Earth between them, pressing it gently down with your Hand, that the Plants may be thereby separated from each other to a greater Distance; then give them a little Water (if the Weather be dry) to settle the Earth about them, which you must afterwards repeat as often as you shall find it necessary, still being careful to keep the Ground clear from Weeds.

When your Cauliflowers are quite drawn off the Ground from between

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the Cucumbers, you must hoe and clean the Ground, drawing the Earth up round each Hole in form of a Basin, the better to contain the Water when it is given them; and also to lay out the Plants in exact Order as they are to run and extend, so that they may not interfere with each other: and if all the five Plants before left are in good Condition, you should pull out one of the worst, and throw it away; for four good Plants will be full enough to remain for good; then lay a little Earth between the Plants left, pressing it down gently with your Hand, the better to spread them each Way, giving them a little Water to settle the Earth about them, repeating it as often as the Season shall require, and observing to keep the Ground clean from Weeds: the Plants, thus managed, will begin to produce Fruit toward the Latter-end of *July*, when you may either gather them young for pickling, or suffer them to grow for large Fruit.

The Quantity of Holes necessary for a Family is about fifty or sixty; for if you have fewer, they will not produce enough to pay for pickling, without keeping them too long in the House; for you can't expect to gather more than two hundred at each time from fifty Holes; but this may be done twice a Week during the whole Season, which commonly lasts five Weeks; so that from fifty Holes you may reasonably expect to gather about two thousand in the Season, which, if they are taken small, will not be too many for a private Family, especially considering, that if you have fewer Holes, the Quantity each Week produced will scarcely be worth the Trouble of pickling.

But lest I should be censur'd by those who delight in having very early

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early Cucumbers, for omitting what they call an essential Part of Gardening, I shall beg Leave here to subjoin a short Account of a Method which I have used with very good Success, to obtain Cucumbers very early; which is, After having raised the Plants in the manner before directed for early Cucumbers, until they have put forth their rough Leaves, I prepared some loose wrought Baskets, about eight Inches Diameter, and five Inches deep, with two small Handles to each; then I made a fresh Hot-bed of good Strength, which would hold a Frame of two Lights; on this I placed the Baskets, which were almost full of good light Earth, as near to each other as possible, by which means this small Bed would contain eighteen or twenty Baskets; then I filled up the Spaces between the Baskets with the same light Earth as was put into the Baskets, putting the Frame and Glasses over the Bed, which in two Days was in a proper Temperature of Heat to receive the Plants; then I put five into each Basket, observing to water and shade them until they had taken Root; afterwards managing them as was before directed for the first Crop of Cucumbers, observing, when the Bed began to lose its Heat, to lay a little fresh Dung round the Sides, which added a new Heat to the Bed. In this Frame I suffered them to remain until the Plants were laid down, and had run to the Sides of the Baskets; then I prepared a Ridge, which I made of a good Substance in Dung; and after it had lain two or three Days to heat, I removed the Plants in the Baskets, placing one into the Hole in the Middle of each Light. These Plants in a short time after produced Fruit, which, by the good Temper of Heat in the Bed, grew

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so fast, that in three Weeks after removing the Baskets, I cut Cucumbers. There are several Advantages in this Management; first, you can keep the Baskets in a small Room for a considerable time, whereby your Frames may be employed in other Uses; and secondly, a less Quantity of Dung is required in this Way: thirdly, when the Plants are in Baskets, if you find your Bed too hot, it is but raising up the Baskets, and they are secure from any Danger; and when the violent Heat is over, they may be settled down again: and lastly, by having your Plants so forward for Fruit when they are put into the Ridges, the Heat of the Bed continues to set and bring off the first Crop of Fruit; for want of which kindly Heat, the first Setting or Crop of Fruit which appears upon the Vines, either drops off, or is a long time growing to Maturity; therefore from these, and many other Advantages attending this Method, I may with Safety pronounce it the best yet known to procure Cucumbers in any of the Winter or Spring Months.

CUCUMIS AGRESTIS. *Vide* Elaterium.

CUCURBITA, The Gourd.

The Characters are;

It hath a Flower consisting of one Leaf, which is of the expanded Bell-shape, for the most part so deeply cut, that it seems to consist of five distinct Leaves: this, like the Cucumber, has Male and Female Flowers on the same Plant: the Fruit of some Species is long, of others round or bottle shaped, and is commonly divided into six Cells, in which are contained many flat oblong Seeds, which have sometimes a Border round them.

The Species are;

1. CUCURBITA *longa, folio molli, flore albo.* J. B. The long Gourd, with

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with a soft Leaf, and a white Flower.

2. *CUCURBITA falcata figura, folio molli, flore albo.* C. B. The fickle-shaped Gourd, with a soft Leaf, and a white Flower.

3. *CUCURBITA latior, folio molli, flore albo.* J. B. Flat Gourd, with a soft Leaf, and a white Flower, commonly called Squashes.

4. *CUCURBITA lagenaria, flore albo, folio molli.* C. B. Bottle-shaped Gourd, with a soft Leaf, and a white Flower.

There are several other Varieties of this Plant, which are annually brought from *America*, where are numberless Varieties of these, and of Pumpkins and Calabashes: but these Sorts are so apt to sport, that there is no Certainty of their producing the same shaped Fruit for two Years together, unless it is that with the long Fruit, which I do not remember to have seen change or alter; but all the others will run from one Shape to another, so as rarely to produce the same as those which the Seeds were saved from.

They may be all propagated by sowing their Seeds in *March* on an Hot-bed; and when the Plants come up, they should be transplanted on another moderate Bed, where they should have a great deal of Air to strengthen them; and when they have got four or five Leaves, they should be transplanted into Holes made upon an old Dunghil, or some such Place, allowing them a great deal of room to run; for some of the Sorts will spread to a great Distance. I have measured a single Plant, which had run upwards of forty Feet from the Hole, and had produced a great Number of Side-branches; so that if the Plant had been encouraged, and all the Side-branches permitted to remain, I dare

say it would have fairly overspread twenty Rods of Ground: which, to some People, may seem like a Romance; yet I can affirm it to be Fact. But what is this to the Account printed in the *Transactions of the Royal Society*, which was communicated to them by *Paul Dudley, Esq;* from *New-England*, wherein Mention is made of a single Plant of this Kind, which, without any Culture, spread over a large Spot of Ground, and from which Plant were gathered two hundred and sixty Fruits, each, one with another, as big as an Half-peck!

These Fruits are by some People gathered while young, and boiled; afterwards stripping off the outer Cover, and buttering them, they eat them with Meat, and are by some mightily esteemed; especially the first Sort, which is counted by far the sweetest: of this Kind I have seen a single Fruit upwards of six Feet long, which has ripen'd perfectly well. But this is not common with us; tho' I have heard of their being longer in other Countries. This Sort requires to be sown early in the Spring, and brought forward under Bell or Hand-glasses, otherwise they seldom arrive to half their Maturity.

There are some People who plant these Plants by the Sides of Arbours, over which they train the Vines; so that in a short time they will cover the whole Arbour, and afford a strong Shade; and upon some of these Arbours I have seen the longest Fruit: there are others, who plant them near Walls, Pales, or Hedges, to which they fasten the Vines, and train them to a great Height: the orange-shaped Gourd is the Sort which is most commonly so planted for the Ornament of its Fruit, which has a pretty Effect, especially when seen at some

some Distance : these Plants all require a large Supply of Water in dry Weather.

These Plants requiring so much room to spread, and their Fruit being very little valued in *England*, hath occasioned their not being cultivated amongst us ; we having so many Plants, Roots, or Fruits, which are greatly preferable to those for Kitchen-uses : but in some Parts of *America*, where Provisions are not in so great Plenty, or so great Variety, these Fruits may be very acceptable.

CUIETE, The Calabash-tree.

Dr. *Linnaeus* has altered the Title of this Genus to *Crescentia*, the Name here given to it being the *American* Name.

The Characters are ;

It hath a Flower consisting of one Leaf, of an anomalous Figure, and divided at the Brim into several Parts ; from whose Cup rises the Pointal, fixed like a Nail in the hinder Part of the Flower ; which afterward becomes a fleshy Fruit, having an hard Shell, inclosing many heart-shaped Seeds.

The Species are ;

1. CUIETE *foliis oblongis angustis, magno fructu ovato. Plum. Nov. Gen.* The Calabash-tree with narrow oblong Leaves, and a large oval Fruit.

2. CUIETE *latifolia, fructu putamine fragili. Plum. Nov. Gen.* The broad-leav'd Calabash-tree, with tender-shell'd Fruit.

3. CUIETE *minima, fructu duro. Plum. Nov. Gen.* The least Calabash-tree, with an hard Fruit.

4. CUIETE *angustifolia, fructu minori globoso. Plum. Nov. Gen.* Narrow-leav'd Calabash-tree, with a lesser globular Fruit.

5. CUIETE *angustifolia, fructu minori ovato. Plum. Nov. Gen.* Nar-

row-leav'd Calabash-tree, with a lesser oval Fruit.

The first and second Sorts rise to the Height of twenty-five or thirty Feet, in the *West-Indies*, where they grow naturally in Woods, and the *Savanna's*. The Shells of this Fruit are used by Negroes for Cups to drink out of, as also for Instruments of Music, by making an Hole in the Shell, and clearing it of the Pulp and Seeds ; then they put in small Stones, or the hard Seeds of Trees, with which they make a sort of Rattle.

These Plants, being all of them tender, cannot be maintained in this Country, unless they are preserved in warm Stoves. They are propagated by Seeds, which should be obtained from the Countries where they naturally grow ; for they never produce any Fruit in this Country. These Seeds should be sown early in the Spring, in Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark : the Earth in these Pots must be frequently refreshed with Water ; for if it be kept dry, the Seeds will not vegetate : in about five Weeks after the Seeds are sown, the Plants will begin to appear ; when they must be duly watered, and the Glasses of the Hot-bed should be raised every Day, to admit fresh Air to the Plants ; and let the Steam, which will arise from the Bed, pass off ; which is very injurious to young Plants, when it is pent amongst them. When the Plants are about two Inches high, they should be carefully transplanted, each into a separate small Pot filled with rich light Earth, and plunged into the Hot-bed again, being careful to screen them from the Sun until they have taken new Root ; after which time they must have fresh Air ad-

mitted to them, in proportion to the Warmth of the Season, and must be duly watered; for as they naturally grow on swampy Grounds, they require a pretty large Share of Moisture in warm Weather.

In Winter these Plants must be removed into the Stove, and plunged into the Bark-bed; for they do not thrive well, if they are placed on Boards in a dry Stove; because the Fibres of the Roots, which are toward the Side and Bottom of the Pots, will dry, and retard the Growth of the Plants, if the Pots are not surrounded with Tan, which always retains some Moisture, which keeps the Fibres of the Plants ductile, and thereby is greatly beneficial to them.

In Summer these Plants may have a large Share of Air, by opening the Glasses of the Stove; but they will not thrive if they are taken out of the Stove, and placed in the open Air; so that they should always be kept in the Bark-stove, observing to shift them into larger Pots, as they advance in their Growth. With this Management, they may be preserved many Years, and brought to a large Size; when they will make a fine Appearance, amongst tender Exotic Plants in the Stove; for they retain their Leaves throughout the Year.

CUMINOIDES. *Vide* Lagoecia.

CUMINUM, Cumin.

The Characters are;

The Root is annual: the Leaves are like those of Fennel: the Seeds are small, long, narrow, and crooked: two of which succeed each Flower, as in the other umbelliferous Plants.

There is but one Species of this Plant at present known in England; which is,

CUMINUM. *Mor. Umb.* Cumin.

This Plant is propagated for Sale in the Island of Malta, where it is called *Cumino aigro*, i. e. hot Cumin.

But *Anise*, which they also propagate in no less Quantity, they call *Cumino dulce*, i. e. sweet Cumin: so that many of the old Botanists were mistaken, when they made two Species of Cumin, *viz. acre* and *dulce*.

The Seeds of this Plant are used in Medicine, which are brought from the above-mentioned Place; for the Plant is too tender to be cultivated to any Advantage in England: I have sown the Seeds several times in the Physic-garden, which have come up very well, and grown to be four or five Inches high; but have constantly decay'd, without producing any good Seeds. If any Person is inclined to cultivate a little of this Plant for Curiosity, the best Method is, to sow the Seeds early upon a very moderate Hot-bed; and when the Plants are come up pretty strong, they may be transplanted into a light Soil, at about four or five Inches Distance, where they will produce good Seeds, if the Season is warm.

CUNILA, Bastard Horehound.

This Genus of Plants was titled *Marrubiasrum* by Dr. Tournefort, and some other Botanists; but, being a compound Name, Dr. Linnaeus has altered it to this of *Cunila*, which is an old Name that has been applied to some other Plants of this Class.

The Characters are;

The Flower is of one Leaf, and is of the labiated Kind: the Upper-lip is erect and forked; the lower one is slightly cut into three Parts: the Em-palement is of one Leaf, and cylindrical, and cut into five acute Segments, each ending in a Spine: in the Centre of the Flower is situated the quadrid Pointal, attended by four Stamina: after the Flower is past, there are four oval Seeds included in the Em-palement.

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The Species are;

1. *CUNILA calycum lacinia superiore latiore ovato trinervi.* Lin. Hort. Cliff. Bastard Horehound, with the upper Segment of the Empalement of an oval Shape, having three Ribs.

2. *CUNILA calycum labio superiore trifido, inferiore bipartito.* Lin. Hort. Cliff. Bastard Horehound, with the Upper-lip of the Empalement trifid, and the under bifid.

3. *CUNILA calycibus inermibus lanigeris.* Lin. Hort. Cliff. Bastard Horehound, with a smooth woolly Empalement.

The two first Sorts are low-trailing annual Plants: the Seeds of these may be sown in April, upon a Bed of common Earth, in an open Situation; and when the Plants come up, they will require no farther Care, but to keep them clean from Weeds, and to thin them out where they grow too close together; but these do not bear transplanting well; therefore the Seeds should be sown where the Plants are to remain: these will flower in July, and their Seeds will ripen in September; which if permitted to scatter, the Plants will come up without any farther Trouble.

The third Sort is a biennial Plant, which rises two Feet high; therefore these Plants should not be left so close, as those of the former Sorts; but in all other respects should be treated as is directed for them.

CUPRESSUS, The Cypress-tree.

The Characters are;

The Leaves are squamose and flat: the Male Flowers, which are squamose, grow at remote Distances from the Fruit on the same Tree: the Fruit is of a spherical Form, and is composed of many woody Tubercles, in which are contained hard angular Seeds.

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The Species are;

1. *CUPRESSUS meta in fastigium convoluta, quæ fœmina Plinii.* Tourn. The common Cypress-tree.

2. *CUPRESSUS ramos extra se spargens, quæ mas Plinii.* Tourn. The Male spreading Cypress, vulgo.

3. *CUPRESSUS Virginiana, foliis acaciæ deciduis.* H. L. The Virginian Cypress-tree, with Leaves like the Acacia, which fall off in Winter.

4. *CUPRESSUS Lusitanica patula, fructu minori.* Tourn. Spreading Portugal Cypress, with a smaller Fruit.

3. *CUPRESSUS Americana, fructu minimo.* American Cypress, with the least Fruit, commonly called White Cedar in America.

The first of these Trees is very common in most of the old Gardens in England; but at present is not so much in Request as formerly, tho' it is not without its Advantages; nor should it be intirely rejected, as many Persons are of Opinion: for it serves to add to the Beauty of Wildernesses, or Clumps of Ever-greens. It was formerly planted in Borders of Pleasure-gardens, and kept shorn into a pyramidal or conic Form; and some People, believing them subject to be kill'd if they cut them, tied them up with Cords into a pyramidal Figure; which Form they are naturally disposed to grow in: but this winding them about, prevented the Air from entering the inward Parts of the Branches; so that the Leaves decayed, and became unsightly, and generally retarded their Growth. And so those which are sheared, if the Operation is not performed in the Spring, or early in the Summer, are very subject to be injured by sharp Winds, and cutting Frosts, in Winter. Wherefore, upon the Whole, I think it much better to suffer them to grow wild as

they are naturally disposed, planting them only amongst other ever-green Trees, where, by the Darknes of their green Leaves, together with their waving Heads, they will greatly add to the Variety.

The second Sort is by far the largest-growing Tree, and is the most common Timber in the *Levant*: this, if planted upon a warm sandy or gravelly Soil, will prosper wonderfully: and though it is not quite so tonfide a Plant as the first Sort, yet greatly recompenses for that Defect, by its vigorous Growth, and Strength in resisting all Weathers. This Tree is very proper to intermix with Ever-greens of a second Size next to Pines and Firs, to form Clumps; in which Class it will keep Pace with the Trees of the same Line, and be very handsome. Besides; the Wood of this Tree is very valuable, when grown to a Size fit for Planks; which I am convinced it will do, in as short a Space as Oaks; therefore, why should not this be cultivated for that Purpose, since there are many Places in *England* where the Soil is of a sandy or gravelly Nature, and seldom produces any thing worth cultivating? Now in such Places these Trees would thrive wonderfully, and greatly add to the Pleasure of the Owner, while growing, and afterwards render as much Profit to his Successors, as perhaps the best Plantation of Oaks; especially should the Timber prove as good here, as in the Islands of the *Archipelago*, which I see no Reason to doubt of: for we find it was so gainful a Commodity to the Island of *Candia*, that the Plantations were called *Dos Filia*; the Felling of one of them being reckoned a Daughter's Portion.

The Timber of this Tree is said to resist the Worm, Moth, and all

Putrefaction; and is said to last many hundred Years. The Doors of St. *Peter's Church* at *Rome* were framed of this Material, which lasted from the Great *Constantine* to Pope *Eugenius IVth's* Time, which was eleven hundred Years, and were then found and intire, when the Pope would needs change them for Gates of Brass. The Coffins were made of this Material, in which *Thucydides* tells us the *Athenians* used to bury their Heroes; and the Mummy-chests, brought with those condited Bodies out of *Egypt*, are many of them of this Material.

This Tree is by many learned Authors recommended for the Improvement of the Air, and a Specific for the Lungs, as sending forth great Quantities of aromatic and balsamic Scents; wherefore many of the ancient Physicians of the Eastern Countries used to send their Patients, who were troubled with weak Lungs, to the Island of *Candia*, which at that time abounded with these Trees, where, from the Effects of the Air alone, very few failed of a perfect Cure.

The third Sort is a Native of *America*, where it grows in watry Places, and arises to a prodigious Height, and is of a wonderful Bulk: I have been informed, that there are Trees of this Kind in *America* which are upwards of seventy Feet high, and several Fathoms in Circumference: which Trees grow constantly in the Water; therefore they may probably be of singular Advantage to plant in such swampy or wet Soils, where few other Trees will grow, especially of the resinous Kind. That they are very hardy, in respect to Cold, is evident, from some few Trees of this Kind which were formerly planted in *England*; particularly one in the Gardens of *John*

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Tradestant at *South Lambeth* near *Vauxhall*, which is upwards of thirty Feet high, and of a considerable Bulk; which, though in a common Yard at present, where no Care is taken of it, but on the contrary, many Hooks are driven into the Trunk, to fasten Cords thereto for drying of Cloaths, yet the Tree is in great Health and Vigour; but hath not produced any Fruit as yet; which may be occasioned for want of Moisture: for we often see many aquatic Plants will grow upon a drier Soil; but yet are seldom so productive of either Flowers or Fruit, as those which remain growing in the Water.

There is also a pretty large Tree of this Kind, now growing in the Gardens of *Sir Abraham Janssen*, Bart. at *Wimbledon* in *Surry*, which has produced great Quantities of Cones for some Years past, which in favourable Seasons come to Maturity; and the Seeds have been as good as those which have been brought from *America*. This Tree was transplanted when it was very large, which has stunted its Growth; which, together with its growing upon a dry Soil, may have occasioned its Fruitfulness; for it has made very little Progress in its Growth since it was removed.

These Trees are all propagated from Seeds, which should be sown early in the Spring on a Bed of warm dry sandy Earth, which must be levelled very smooth; then sow the Seeds thereon pretty thick, sifting the same light Earth over them half an Inch thick. If the Weather should prove very warm and dry, it will be proper to water the Bed, which must be done very carefully, observing not to wash the Seeds out of the Ground. In about a Month's time (if your Seeds are good) the young

Plants will appear above-ground, which must be constantly kept clean from Weeds, and in very dry Weather should be often refreshed with Water; but this should be done with great Caution, lest you beat these tender-rooted Plants out of the Ground.

If the Seeds are sown upon a moderate Hot-bed, and the Bed covered with Mats, they will come up much sooner, and with greater Certainty, than when they are sown in the cold Ground.

In this Bed the young Plants may remain two Years, by which time they will have Strength enough to be transplanted into a Nursery. The best Season for removing them is in the Beginning of *April*, when the drying Easterly Winds of *March* are over; and, if possible, choose a cloudy Day, when it is inclinable to Rain; and in taking them out of the Seed-bed, preserve the Roots as intire as possible, and, if you can, a Ball of Earth to each Plant. The Soil in which these Trees should be planted (as I before said), should be, for the two first Sorts, a warm Sand or Gravel; which when you have prepared, by carefully digging and cleansing from all noxious Weeds, you must lay it level. Then draw the Lines where the Trees are to be planted at three Feet asunder, and plant the Trees at eighteen Inches Distance in the Rows, observing to close the Earth well to their Roots, as also to lay a little Mulch upon the Surface of the Ground about their Stems; and water them well, to settle the Earth to their Roots; which should be repeated twice a Week, until the Plants have taken fresh Root.

These Plants may remain in the Nursery three or four Years, according to the Progress they make, or

your Ground is ready where they are to be planted : but if you intend to let them remain longer, you should take up every other Tree in the Rows, and transplant out ; for otherwise their Roots will be matted together, so that it will render it difficult to transplant them, as also endanger the future Growth of the Trees. These Plants should by no means be let stand too long in the Nursery, before they are transplanted out for good ; because the Roots do not mat together so closely as those of many other Sorts of ever-green Trees, whereby they may be taken up with good Balls of Earth to their Roots ; but the Roots of the Cypress are apt to extend out in Length ; so it is one of the most difficult Trees to remove when grown large ; therefore most curious Persons choose to plant the young Plants into small Pots, when they first take them out of the Seed-bed ; and so train them up in Pots for two or three Years, until they are fit to plant out, where they are to stand for good ; and, by this Management, they are secure of all the Plants ; and these may be shaken out of the Pots at any time of the Year without Danger, and planted with their whole Ball of Earth, which is likewise a great Advantage. When they are planted out for good (if they are designed for Timber), they should be planted about eighteen or twenty Feet Distance every Way ; and be very careful in removing them, not to shake the Earth from their Roots ; to prevent which, you should open the Ground about each Tree, cutting off all long Roots ; then working under the Ball of Earth, cut the downright Roots off ; and after having pared off all the Earth from the Upper-part of the Ball, as also reduced the Bulk of it,

so that its Weight may not be too great for the Fibres to support, they may be carried upon an Hand-barrow by two Persons to the Place where they are to be planted : but if they are to be carried to a very distant Place, they should either be put into Baskets, or their Roots closely matted up. When they are planted, you must settle the Earth close to their Roots, as before, laying a little Mulch upon the Surface of the Ground about their Stems, to prevent the Sun and Wind from entering the Earth to dry their Fibres ; and water them well, to settle the Ground to their Roots ; which must also be repeated (if the Weather be dry) until they have taken Root ; after which time they will require little more Care than to keep them clear from Weeds.

The first, which is the most common Sort in *England*, seldom produces good Seeds in this Country ; it is therefore the best way to have the Cones brought over intire from the South Parts of *France* or *Italy*, where they ripen perfectly well, and take the Seeds out just before you sow them ; for they will keep much better in the Cones than if they are taken out. The Method to get the Seeds out is to expose the Cones to a gentle Heat, which will cause them to open, and easily emit their Seeds.

The second Sort produces very good Seeds in *England* ; so that we may hope to be supplied with Seeds in Plenty, in a few Years, from Trees of our Growth : and as this is the more valuable Tree, it will be no small Advantage to our Plantations of Timber to introduce it amongst them, especially those of ever-green Trees : these Trees have been by all the former Writers on Botany put down as two distinct Species ; so I have also mentioned them here as such ;

such; yet, from several Trials which I have lately made, I find that the Seeds of the second will produce Plants of both Kinds; therefore they should be deemed but one Species.

The *Virginian* Kind may also be propagated in as great Plenty; for the Cones of this may be easily procured from *Carolina* or *Virginia*, in both which Places they grow in great Abundance; and the Seeds will rise as easily as any of the other Sorts, and are equally as hardy: these have been formerly kept in Pots, and housed in Winter; with which Management they have not succeeded so well, as they have done in *England*, since People have planted them into the full Ground; and where they have had a moist Soil, I have observed them to thrive best: which is since confirmed by Mr. *Catesby*, in his *Natural History of Carolina*; where he says, That this Tree grows in Places where the Water commonly covers the Surface of the Ground three or four Feet; so that it may be a very great Improvement to our boggy Soils. This Tree, casting its Leaves in Winter, does not so well suit with Plantations of Ever-greens at that Season; though in Summer, when there is the greatest Pleasure in walking among Plantations of Trees, it hath so much the Appearance of an Ever-green; as to pass for such; and therefore may be of Service to complete Plantations or Vistas of Cypress-trees, where it may so happen, that a low marshy Spot of Ground may intervene.

The fourth Sort is, at present, pretty rare in the *English* Gardens, tho' of late Years there have been several Plants raised in some curious Gardens; but this Sort is not quite so hardy, I fear, as the common Cypress, tho' the young Plants have not been injured by any of the late

Winters; but in the severe Frost in 1740. there was a large Tree of this Kind intirely killed in the Gardens of his Grace the Duke of *Richmond*, at *Goodwood* in *Sussex*. There are great Plenty of these Trees growing at a Place called *Busaco*, near *Quem-borough* in *Portugal*, where this Tree is called the Cedar of *Busaco*; and there it grows to be a Timber-tree; so that from thence the Seeds may be easily procured.

The fifth Sort is a Native of *North America*, where it grows to a considerable Height, and affords an useful Timber to the Inhabitants for many Purposes. This Sort is extremely worth cultivating in *England*; for as it grows in a much colder Country, there is no Danger of its thriving well in the open Air in *England*; and being an Ever-green of regular Growth, will add to the Variety in Wilderness-quarters, or other Plantations of ever-green Trees.

This Sort is propagated by Seeds, which should be sown in the Spring in Boxes or Tubs filled with fresh light Earth, and placed where they may enjoy the morning Sun till Eleven or Twelve o'Clock: in dry Weather they should be duly watered, and constantly kept clear from Weeds: in this Situation they may remain till *Michaelmas*, when they should be removed to a warmer Place; for the Plants seldom appear till the following Spring, so that it will be proper to place the Boxes or Tubs near the South Wall, Pale, or Hedge, during the Winter-season; lest, by being too much shaded, the Wet of the Winter-season should rot the Seeds. In the Spring following, if these Tubs or Boxes are placed on a moderate Hot-bed, it will bring up the Plants very soon, and greatly forward their Growth; but as the
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Spring advances, they should be inured to bear the open Air by degrees; and in *May* they must be taken out of the Hot-bed, and placed in a sheltered Situation, where they may enjoy the morning Sun, being careful to keep them clear from Weeds, as also to water them duly in dry Weather. The following Winter it will be proper to remove the Tubs near a South Wall or Pale; for the Plants being very young, are somewhat tenderer than they will be afterward. Toward the Latter-end of *March*, or the Beginning of *April*, just before the Plants begin to shoot, they should be carefully taken up out of the Boxes; and having prepared a Bed or two, according to the Quantity of Plants raised, of fresh Earth, in a warm Situation, the Plants should be planted therein in Rows about eighteen Inches asunder, and about a Foot Distance Plant from Plant in the Rows: this Work should be done in cloudy Weather, when there is Rain; for in dry Weather, when Easterly Winds commonly blow at this Season, it will be very dangerous to transplant these Plants; so that it had better be deferred a Fortnight longer, till there is an Alteration of Weather, than hazard the Plants. When the Plants are planted, they should be watered to settle the Earth to their Roots; and then the Surface of the Ground should be covered with Mulch, to prevent the Sun and Wind from penetrating to the Roots of the Plants; for nothing is more injurious to these Plants, than to have their Fibres dried when they are transplanted; therefore the Plants should not be taken out of the Tubs, till you are ready to place them in the Ground; for they will not bear to lie out of the Ground any time without great Danger.

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When these Plants are transplanted, they should be put each into a small Pot filled with loamy Earth; and if these Pots are placed upon a moderate Hot-bed, arched over with Hoops, and covered with Mats, until the Plants have taken good Root, there will be much less Danger of their succeeding, than if they are planted in the full Ground; and there will be no Danger of their growing, when they are planted out of the Pots again, because they may be shaken out of the Pots with the whole Ball of Earth to their Roots.

During the Summer the Pots may remain plunged in the same Bed, which will prevent the Earth from drying too fast, which it would do, if the Pots were set on the Surface of the Ground: the Plants will require constantly to be watered in dry Weather, otherwise they are very apt to die in Summer; for these Plants grow upon moist Soils, and in low swampy Places, in *North America*; so will not grow upon dry Ground; but the Cold never injures these Trees: so that where these are cultivated, they must not be planted upon a dry Soil; for they will certainly die in Summer, for want of Moisture. These Trees are, with Difficulty, removed after they have been growing any considerable time in a Place; therefore it is much the best Method to keep them in Pots, until they are fit to put out for good.

The Branches of this Tree are garnished with flat ever-green Leaves, resembling those of the *Arbor Vita*; and the Cones are no larger than the Berries of the Juniper, from which they are not easily distinguished at a little Distance; but upon closely viewing they are perfect Cones, having many Cells, like those of the common Cypress: if these Trees are planted

planted in a moist strong Soil, they make very great Progress; and may, in such Situations, become profitable for Timber; but however this Tree may succeed for Timber, yet it will be a great Ornament to large Plantations of ever-green Trees, especially in such Places where there is naturally a proper Soil for these Trees; because, in such Situations, there are not many Sorts of ever-green Trees which thrive well, especially in cold Places; and by increasing the Number of Sorts of these Ever-greens, we add to the Beauty of our Gardens and Plantations.

The fourth Sort sends forth its Branches almost horizontally, so that they extend to a great Distance every Way; and the Trees are generally furnished with Branches, from the Ground upward; but as these grow without much Order, the Trees have a very different Appearance from all the other Sorts. This grows to be a large Timber-tree in *Portugal*; but the largest Tree which I have seen in *England*, has not been above fifteen Feet in Height; and the Branches of this were extended more than eight Feet on every Side from the Stem. This Sort may be propagated from Seeds in the same manner as the common Cypress; and the Plants should be treated in the same manner as hath been directed for them, with this Difference only; That it will be proper to cover these Plants, during the two first Winters, after they are come up; especially if the Frost should be severe, which might destroy them, if they are exposed to it while they are young. This Sort may also be propagated by Cuttings, which if planted in Autumn, and screened in Winter, they will take Root; but it is generally two Years before they will be rooted enough to transplant, nor will the

Plants, so raised, thrive so fast as the Seedlings; therefore when the Seeds can be obtained, that is the best Method to propagate this Tree.

The *American* deciduous Cypress may also be propagated by Cuttings, as I have several times tried; so that when Seeds cannot be had, this Method may be practised successfully: I suppose the common Sort will also take from Cuttings; but this I have not experienced; so cannot recommend it to Practice.

These Trees are so very ornamental to Gardens, that no large Garden can be complete without many of them; and it is to these Trees that the *Italian* Villa's owe a great Share of their Beauty: for there is no Tree so proper to place near Buildings: the pyramidal upright Growth of their Branches affords a picturesque Appearance, and obstructs not the View of the Building; and the Dark-green of their Leaves makes a fine Contrast with the White of their Building: so that, where-ever there are Temples or other Buildings erected in Gardens, there is no Sort of Tree so proper to place near them as these. In all the Landscapes of *Italian* Villa's, we see many Cypress-trees represented, which have a very agreeable Effect in the Picture; and the Trees, when rightly disposed in a Garden, afford a no less agreeable Prospect.

CURRAN-TREE. *Vide* Ribes.

CURURU. This is the *Indian* Name for this Plant; and we know no *English* Name to it at present.

The Characters are;

It hath a rose-shaped Flower, consisting of four or more Petals, which are placed in a circular Order, from whose many-leav'd Flower-cup arises the Pointal; which afterward becomes a pear-shaped triangular Fruit, divided

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Divided into three Parts from the Top to the Bottom, containing three fleshy Seeds, which are fastened to the Seed-vessel by a slender red Filament.

The Species are;

1. *CURURU scandens enneaphylla, fractu racemoso rubro. Plum. Nov. Gen.* Climbing nine-leav'd Cururu, with red Fruit growing in a Bunch.

2. *CURURU scandens pentaphylla. Plum. Nov. Gen.* Climbing five-leav'd Cucuru.

3. *CURURU scandens triphylla. Plum. Nov. Gen.* Climbing three-leav'd Cururu.

These Plants grow plentifully in the Island of Jamaica, at La Vera Cruz, and several other Parts of America; where they climb up Trees, and ramble over Hedges, Bushes, or whatever grows near them. The first, which is the largest Plant of Growth, will many times climb up five-and-twenty or thirty Feet high; the other two seldom grow above sixteen or eighteen Feet high.

These Plants are preserved in curious Botanic Gardens for the sake of Variety; but there is no great Beauty in them. They may be propagated by sowing their Seeds on an Hot-bed early in the Spring; and when the Plants are come up, they should be each transplanted into a small Halspeny Pot filled with fresh light Earth, and then plunged into a moderate Hot-bed of Tanners Bark, observing to shade them until they have taken Root; after which time they should have a large Share of fresh Air admitted to them in warm Weather; and must be frequently refreshed with Water. When the Plants have filled these Pots with their Roots, they should be shifted into others of a larger Size, and plunged into the Hot-bed again, treating them as before: in this Bed they may remain till Autumn, provided there is

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room for them under the Glass without being pressed; then they must be removed into the Bark-stove, and placed toward the Back-side of the Bed; where, if they are supported by a Trellice, they will climb up to a great Height, and produce Flowers. In Winter these Plants should have a temperate Heat, and must be often refreshed with Water.

CUSTARD-APPLE. *Vide Guanabanus.*

CYANUS, Bottle-flower, or Bluebottle.

The Characters are;

It hath a squamose hairy Calyx: the Disk of the Flower is almost plain; but the outer Florets round the Border are large, tubulous, and deeply cut in: these outer Florets are always barren; but the inner Florets have a single naked Seed succeeding each.

The Species are;

1. *CYANUS montanus latifolius, vel verbasculum cyanoides. C. B.* The greater broad-leav'd Blue-bottle, commonly called Globe-flower.

2. *CYANUS angustiore folio & longiore, Belgicus. H. R. Par.* The greater narrow-leav'd Blue-bottle, or Globe-flower.

3. *CYANUS floridus odoratus Turcicus, sive Orientalis major, flore purpureo. Park.* The purple sweet Sultan, *vulgo.*

4. *CYANUS floridus odoratus Turcicus, sive Orientalis major, flore albo. H. R. Par.* The white sweet Sultan, *vulgo.*

5. *CYANUS floridus odoratus Turcicus, sive Orientalis major, flore incarnato. H. L.* Sweet Sultan, with a pale Flower.

6. *CYANUS floridus odoratus Turcicus, sive Orientalis major, flore luteo. H. L.* The yellow sweet Sultan.

7. *CYANUS segetum, flore cæruleo. C. B.* Corn Blue-bottle.

8. *CYANUS*

8. CYANUS *segetum*, *flore albo*.
C. B. Corn-bottle with a white Flower.

9. CYANUS *segetum*, *flore variegato*. Corn-bottle with a variable Flower.

The first and second Species are abiding Plants, which increase greatly by their creeping Roots. The first is very common in most of the old Country-gardens, but is seldom preserved in curious Flower-gardens; because it is so apt to overspread whatever Plants grow near it; however, it may have a Place in large Borders under Trees, or Wildernesses, where it will thrive very well: and altho' it is a Flower of little Beauty, yet, for its Variety, and long Continuance to flower, it deserves to be propagated in very large Gardens. The second is, at present, less common in *England*, being rarely to be found but in Botanic Gardens. These are multiplied by taking Off-sets from the old Roots, which they furnish in great Plenty, either in Spring or Autumn, and will grow in any Soil or Situation.

The third, fourth, fifth, and sixth Sorts are commonly sown on an Hot bed, and treated as the Balsamine, or Marvel of *Peru*: but these will flower full as well, if they are sown on a Border of good light Earth, in a warm Position, except the sixth Sort, which should have an Hot-bed; and when the Plants come up, they may be pricked out upon another Bed of good Earth six Inches apart each Way, where they may remain until they are strong enough to be transplanted where they are to flower; which may be either in Pots, or in Borders amongst other Annuals: in doing of which, you must be careful not to shake the Earth from their Roots; and when they are planted, they should be watered

and shaded until they have taken new Root. In *July* these Plants will begin to flower, and continue until the Frost prevents them. But you should observe to let the earliest Flowers remain for Seeds; for if the Autumn should prove cold and wet, the late Flowers will not produce good Seeds, especially the yellow Sort, which seldom perfects Seeds, unless they are brought to flower very early.

There are two or three other Varieties of these Flowers, as one with quilled Flowers, both of the yellow and white Sorts; and another with large plain Florets, of a Flesh-colour, which is call'd in *Turky* *Amberbai*, or *Emberboi*; but these are not constant, but are very subject to vary from the Sorts which the Seeds were saved from; therefore should not be esteemed as different.

These Plants are annual, and rarely continue after perfecting their Seeds; yet, in order to have them flower early in the Season, you may sow their Seeds the Latter-end of *July*, or the Beginning of *August*, that the Plants may have Strength before the cold Weather comes on; and if these are planted into warm Borders, they will endure the Cold very well, provided they are not so forward as to run up to flower; and these will flower early the next Summer; by which Method you may always be sure to obtain good Seeds.

The Corn-bottles are also Annuals, which, for the Diversity of their Flowers, were propagated in Gardens; but of late Years they have been almost excluded: however, the variable Flowers are worthy of a Place in every good Garden; especially those with variegated Flowers, of which there are now a great Variety of Colours in the *English* Gardens.

Gardens. These should be sown in Autumn, and may be transplanted into large Borders, where they will endure the Cold, and flower early the succeeding Summer, and will grow in almost any Soil or Situation.

CYCLAMEN, Sow-bread.

The Characters are;

It hath a thick round fleshy Root: the Flowers arise singly upon Pedicles from the Root, which consist of one Leaf, divided into five or six Segments, which are reflexed almost to the Bottom, where they are divided: the Pointal of the Flower becomes a round membranaceous Fruit, which contains many roundish Seeds, which, being committed to the Earth, become a Root.

The Species are;

1. *CYCLAMEN hederæ folio, flore purpureo.* C. B. Common autumnal Sow-bread, with purple Flowers.

2. *CYCLAMEN hederæ folio, flore albo.* Autumnal Sow-bread, with a white Flower.

3. *CYCLAMEN orbiculato folio, inferne purpurascente.* C. B. Round-leav'd Sow-bread, with Leaves of a purplish Colour underneath.

4. *CYCLAMEN vernal minus, orbiculato folio inferne rubente, flore minore ruberrimo.* Mor. Hist. Lesser Spring Sow-bread, with roundish Leaves of a redish Colour underneath, with small deep-red Flowers.

5. *CYCLAMEN hyeme & vere florens, folio anguloso amplo, flore albo, basi purpurea, Persicum dictum.* H. R. Par. The Persian Winter and Spring-flowering Sow-bread, with large white Flowers, and a purple Bottom.

6. *CYCLAMEN hyeme & vere florens, folio anguloso amplo, flore carneo, basi purpurea.* H. R. Par. The Persian Winter and Spring-flowering

Sow-bread, with a large flesh-colour'd Flower, and a purple Bottom.

7. *CYCLAMEN vernal album.* C. B. White Spring-flowering Sow-bread.

There are several other Varieties in the curious Gardens Abroad; but these here mentioned are what we have at present in England.

The first and second Sorts are very common in the English Gardens, and are very hardy. These are propagated by sowing their Seeds soon after they are ripe, in Tubs of fresh sandy Earth, in the manner directed for Xiphium; to which Article I shall refer, to avoid Repetition. In four or five Years time they will begin to flower; but their Roots, being then small, will produce very few Flowers; and as their Roots yearly increase in Bulk, so will the Number of Flowers increase in proportion. I have seen a single Root of this Plant above fourteen Inches Diameter; which hath produced upwards of an hundred Flowers in one Season.

The best Season for transplanting these Roots is in June or July, soon after the Seeds are perfected; but they should not be kept long out of the Ground; for the Roots are disposed to shoot out fresh Fibres with the first moist Weather after the Seeds are fallen; and in about six Weeks produce their Flowers, which appear upon single Footstalks before the Leaves are produced. After the Flowers are blown, the green Leaves appear, which continue all the Winter; and being of a strong Green, varied with White, it makes an handsome Appearance during that Season. The Pedicle of the Flower afterward twists like a Screw, inclosing the Embryo of the Fruit; by which means it is cover'd by the green

green Leaves, whereby it is protected from the Frost, &c. and about the Beginning of *June* the Seeds will be perfected.

The third Sort was formerly more common in *England* than at present. This must be treated in the same manner with the two former, and flowers in the same Season.

The fourth and seventh Sorts are tenderer than the former; and must either be planted in Pots, and sheltered under a Frame in Winter, or be placed in a warm dry Border, and covered with Mats in frosty Weather, otherwise they will not flower so strong; and in severe Winters, if they are not protected from Frost, the Roots will be destroyed. These produce their Flowers very early in the Spring, if the Frost does not prevent them. The Seeds of these are ripe about the same time with the former, and must be sown and managed in the same manner; but the Boxes of Seeds or young Plants of these Kinds should be sheltered in Winter.

The fifth and sixth Sorts are still more impatient of Cold and Wet than any of the former. These must constantly be preserved in Pots filled with sandy light Earth, and housed in Winter; but should be placed near the Glasses, where they may enjoy as much free open Air as possible, when the Weather will permit; for if they are crowded under other Plants, and are kept too close, they are very subject to mould and rot; nor should they have much Water in Winter, which is also very injurious to them: but whenever they want Water, it should be given them sparingly. In Summer these Plants may be exposed to the open Air, when their green Leaves will decay; at which time you should remove them to a Place, where they

may have the morning Sun until Eleven o'Clock; but during the time that the Roots are destitute of Leaves, they should have very little Water given them; because at that Season they are not capable of discharging the Moisture. This is also the proper Season to transplant the Roots, or to fresh earth them; and as the Autumn comes on, that the Heat decreases, they may be removed into Places more exposed to the Sun; where they may remain until *October* before they need be housed.

Toward *Christmas*, if the Roots are in good Health, they will begin to flower, and continue producing fresh Flowers until *April*; from which, if you intend to have any Seeds, you must let the Pots be placed so as to receive a great Share of fresh Air; for if their Flowers are drawn up in the House, they seldom produce any Seeds. These Seeds are ripe about *July*, when they should be immediately sown in Pots or Cases of good light undung'd Earth; which should be sheltered in Winter under a Frame, and exposed in Summer in the same manner as is directed for the older Roots; observing to remove them into Pots at a wider Distance when they are two Years old; and so from time to time, as their Roots increase in Bulk, you must give them more room; and in about four or five Years time they will begin to flower, when you should let each Root have a separate Pot, which at first may be small; but when the Roots are grown large, they must be put into bigger Pots.

These Sorts have been planted under warm Walls in the full Ground, where in mild Winters they have done very well, but in severe Frost all those Roots have been destroyed; therefore, whenever these Roots are planted

planted in an open Border, there should be common Hot-bed-frames placed over them in Winter, that in bad Weather they may be covered, to protect them from Frost: and where they are thus managed, the Plants will produce more Flowers, and those will be much fairer, than what are produced from the Roots in the Pots; and from these there may always be good Seeds expected: therefore such Persons who are curious in Flowers, should have a Border framed over on purpose for these, and the *Guernsey* and *Belladonna-lilies*, with some other of the curious bulbous-rooted Flowers; in which Border there may be many of these curious Flowers cultivated, to more Advantage than in any other Method now practised.

CYDONIA, The Quince-tree.

The Characters are;

The Tree is of a low Stature: the Branches are diffus'd and crooked: the Flower and Fruit is like that of the Pear-tree; but however cultivated, the Fruit is sour and astringent, and is cover'd with a kind of Down.

The Species are;

1. CYDONIA *fructu oblongo laeviori*. Tourn. The Pear-quince, vulgo.

2. CYDONIA *fructu breviori & rotundiore*. Tourn. The Apple-quince, vulgo.

3. CYDONIA *latifolia Lusitanica*. Tourn. The broad-leav'd Portugal Quince.

4. CYDONIA *fructu oblongo laevi dulci edulique*. Tourn. The Quince-tree with oblong smooth sweet Fruit, which are eatable.

5. CYDONIA *fructu oblongo minori lanuginoso non eduli*. Tourn. Quince-tree with lesser oblong downy Fruit, which are not eatable.

6. CYDONIA *angustifolia vulgaris*. Tourn. The common Quince-tree, with narrow Leaves.

These six Sorts are cultivated in most Nurseries near *London*; but the *Portugal* Kind is most valued for the Goodness of its Fruit.

They are all easily propagated, either by Layers, Suckers, or Cuttings, which must be planted in a moist Soil. Those raised from Suckers are seldom so well rooted as those which are obtain'd from Cuttings or Layers; and are subject to produce Suckers again in greater Plenty, which is not so proper for fruit-bearing Trees. The Cuttings should be planted early in the Autumn, and in dry Weather must be often water'd to encourage their Rooting. The second Year after they should be remov'd into a Nursery at three Feet Distance Row from Row, and one Foot asunder in the Rows; where they must be manag'd as was directed for Apples. In two or three Years time these Trees will be fit to transplant, where they are to remain for good; which should be either by the Side of a Ditch, River, or in some other moist Place; where they will produce a greater Plenty, and much larger Fruit, than in a dry Soil; tho' those in the dry Soil will be better tasted, and earlier ripe. These Trees require very little pruning; the chief thing to be observed is, to keep their Stems clear from Suckers, and cut off such Branches as cross each other; likewise all upright luxuriant Shoots from the Middle of the Tree should be taken intirely out, that the Head may not be too much crouded with Wood; which is of ill Consequence to all Sorts of Fruit-trees. These Sorts may also be propagated by budding or grafting upon Stocks raised by Cuttings; so that the best Sorts may be cultivated in greater Plenty this Way, than by any other Method; and these Trees will bear Fruit much better.

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These are also in great Esteem for Stocks to graft and bud Pears on; which for Summer and Autumn-fruits are a great Improvement to them, especially those design'd for Walls and Espaliers: for the Trees upon these Stocks do not shoot so vigorously as those upon Free-stocks, and therefore may be kept in less Compass, and are sooner disposed to bear Fruit: but Winter-fruits do not succeed so well upon these Stocks, their Fruit being very subject to crack, and are commonly stony, especially all the breaking Pears; therefore these Stocks are only proper for the melting Pears, and for a moist Soil. The best Stocks are those which are raised from Cuttings, or Seeds.

CYNOGLOSSUM, Hounds-tongue.

The Characters are;

The Cup of the Flower consists of one Leaf, which is deeply cut into five Parts: the Flower consists of one Leaf, is funnel-shaped, and cut into five Segments: the Pointal, which arises from the Bottom of the Flower, changes into a Fruit compos'd of four rough, and, for the most part, burry Cells; each containing a flat Seed affix'd to a pyramidal and quadrilateral Placenta.

The Species are;

1. CYNOGLOSSUM *majus vulgare*. C. B. Common green Hounds-tongue.

2. CYNOGLOSSUM *majus vulgare, flore albo*. C. B. Common Hounds-tongue, with a white Flower.

3. CYNOGLOSSUM *montanum maximum*. Tourn. The largest mountain Hounds-tongue.

4. CYNOGLOSSUM *sempervirens*. C. B. Ever-green Hounds-tongue.

5. CYNOGLOSSUM *Creticum, argenteo angusto folio*. C. B. Candia

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Hounds-tongue, with narrow silver-colour'd Leaves.

6. CYNOGLOSSUM *folio molli incano, flore cæruleo, striis rubris variegato*. Mor. Hist. Soft-leav'd hoary Hounds-tongue, with blue Flowers strip'd with red.

7. CYNOGLOSSUM *hirsutum vineale minus, flosculis minimis cæruleis*. Mor. Hist. The lesser hairy Hounds-tongue, with small blue Flowers.

There are several other Varieties of this Plant, which are cultivated in curious Botanic Gardens; but as they are Plants of little Beauty, and the first Sort only is that which is commonly us'd in Medicine, and this growing in great Plenty wild upon Dunghills, and in shady Lanes in divers Parts of England, they are therefore seldom preserved in Gardens. They may be easily cultivated by any Person that is curious that way, by sowing the Seeds early in the Spring, or in Autumn soon after they are ripe, in almost any Soil or Situation (except the Candia Sort, which must have a warm Position, and a dry Soil); where they will flower and seed in plenty; and if the Seeds are permitted to scatter, will abundantly supply the Place with young Plants. As the Roots are often used, so the proper Season to take them up is soon after the Leaves decay, before they shoot again; which is what should be observ'd of all Roots either for Meat or Medicine; for then it is that they have the most Virtue.

CYSTICAPNOS, African Bladder-fumitory.

The Characters are;

It hath an annual fibrose Root: the Leaves, Branches, and Flowers, have the Appearance of climbing Fumitory: the Fruit is an oval Bladder, pierc'd through by an Axis, to which

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are fasten'd round Seeds on every Side, inclos'd again with one common Vesicle, which is expanded about the Axis.

There is but one Species of this Plant at present known; which is,

CYSTICAPNOS Africana scandens. Boerb. Ind. African climbing Bladder-fumitory.

This Plant is annual; the Seeds of which may be sown on a warm Border, where it is to remain; for it doth not care to be remov'd: it flowers in July, and the Seeds are perfected in August or September. It is a Plant of no great Beauty; but is preserv'd in curious Botanic Gardens for the sake of Variety.

CYTISO-GENISTA. Vide Spartium.

CYTISUS, Base Tree-trefoil.

The Characters are;

It hath a papilionaceous (or pea-bloom) Flower, whose Standard is oval, and the Sides reflexed: the Wings are obtuse, erect, and of the same Length with the Standard: the Keel is hollow and pointed: in the Centre arises the Pointal, attended by ten Stamina; nine of which are collected together, and the other is single; these are inclosed in the Keel: the Pointal afterward becomes an oblong Pod, inclosing several kidney-shaped Seeds; to which may be added, The Leaves growing by Threes, as in the Trefoil.

The Species are;

1. *CYTISUS Alpinus latifolius, flore racemoso pendulo.* Tourn. The broad-leav'd Laburnum, or Bean-trefoil.

2. *CYTISUS Alpinus angustifolius, flore racemoso pendulo longiori.* Tourn. The narrow-leav'd Laburnum or Bean-trefoil, with long pendulous Flowers.

3. *CYTISUS Alpinus, flore racemoso pendulo breviori.* Tourn. Broad-leav'd Laburnum or Bean-trefoil, with very short pendulous Flowers.

4. *CYTISUS glaber nigricans.*

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C. B. The black Base Tree-trefoil.

5. *CYTISUS Canariensis semper-virens & incanus.* Hort. Amst. Hoary ever-green Canary Tree-trefoil.

6. *CYTISUS glabris foliis subrotundis, pediculis brevissimis.* C. B. P. Round-leav'd smooth Base Tree-trefoil, with short Foot-stalks. This is commonly sold by the Nursery-gardeners, under the Title of *Cytisus secundus Clusii*.

7. *CYTISUS hirsutus.* J. B. Hairy Base Tree-trefoil.

8. *CYTISUS spinosus.* H. L. Prickly Base Tree-trefoil.

9. *CYTISUS Monspesulanus, medicæ folio, siliquis dense congestis & villosis.* Tourn. Base Tree-trefoil of Montpellier, with Medic-leaves, and hairy Pods growing in Bunches.

10. *CYTISUS incanus, siliqua longiore.* C. B. P. Hoary Base Tree-trefoil, with a longer Pod.

11. *CYTISUS hirsutus, flore luteo purpurascente.* C. B. P. Hairy Base Tree-trefoil, with a purplish-yellow Flower.

12. *CYTISUS glaber viridis.* C. B. P. Smooth green Base Tree-trefoil.

13. *CYTISUS foliis incanis angustis, quasi complicatis.* C. B. P. Base Tree-trefoil, with narrow hoary Leaves.

14. *CYTISUS Lusitanicus, medicæ foliis, floribus in foliorum alis.* Tourn. Portugal Base Tree-trefoil, with a Medic-leaf, and the Flowers growing at the Wings of the Leaves.

15. *CYTISUS Lusitanicus, foliis minimis argenteis, parvo flore albo.* Tourn. Portugal Base Tree-trefoil, with the least silvery Leaves, and a small white Flower.

16. *CYTISUS Lusitanicus, foliis exiguis, magno flore, siliquis latis & tomentosis.* Tourn. Portugal Base Tree-trefoil, with small Leaves, a large Flower, and broad woolly Pods.

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17. *CYTISUS foliis argenteis*. *Wheel. Itin.* Silvery Base Tree-trefoil of Sir George Wheeler.

18. *CYTISUS Orientalis latifolius subtus incanus*. *Tourn. Cor.* Eastern Base Tree-trefoil, with broad Leaves, which are hoary underneath.

19. *CYTISUS Africanus hirsutus angustifolius*. *Oldenl.* Hairy African Base Tree-trefoil, with narrow Leaves.

20. *CYTISUS Americanus frutescens sericeus*. *Plum. Cat.* Shrubby silky American Base Tree-trefoil.

21. *CYTISUS floribus capitatis, ramis decumbentibus*. *Flor. Leyd.* Base Tree-trefoil, with Flowers growing in Heads.

22. *CYTISUS folio molli incano, siliquis orobi contortis & acutis*. *Burm. Zeyl.* The Pigeon-pea.

23. *CYTISUS foliis fere sessilibus, calycibus squamula triplici auctis*. *Lin. Hort. Cliff.* Base Tree-trefoil, whose Leaves grow close to the Branches, and the Empalement of the Flower hath three small Scales, commonly called *Indigo* in North-America.

24. *CYTISUS foliolis oblongis ovatis, pedunculis longioribus, floribus lateralibus*. Base Tree-trefoil, with oblong oval Leaves standing on long Footstalks, and Flowers coming out on the Side of the Branches.

The first, second, and third Sorts grow to be large Trees, and are therefore proper for large Quarters of flowering Trees, especially the first, which will grow to be eighteen or twenty Feet high. Their Season of flowering is in *May*, at which time they afford a very agreeable Prospect; especially that Sort with long pendulous Flowers, which is by far the most beautiful Kind.

These are all propagated by sowing their Seeds (which they afford in plenty) in *March*, on a Bed of good

fresh light Earth, sifting a little Mould over them about half an Inch thick, and in about a Month's time the Plants will come up; you must therefore keep them clear from Weeds; and if the Season should prove dry, you must often refresh them with Water, which will greatly promote their Growth. In this Bed they may remain until *October* following, when you may transplant them into a Nursery, in Rows three Feet Distance, and one Foot asunder in the Rows; being careful not to break the Roots, which are very tender, as also to water and mulch their Roots, to prevent the Sun and Wind from drying their Fibres. This Nursery must also be kept very clear from Weeds, and every Spring the Ground between the Rows should be dug, to loosen the Earth, and destroy the Weeds. In this Nursery they may remain two or three Years, according to the Progress they make, or as the Ground where they are to be planted is ready; but however, if they stand longer than three Years, every other Tree should be remov'd, or else they should at first be planted at a much greater Distance; for otherwise their Roots will intermix, and render it difficult to remove them safely. The Season for transplanting these Trees is either in *October* or *February*; observing to mulch and water them as before.

These Trees are of quick Growth, especially if they like the Soil in which they are planted. When this has been the Case, I have known the first Sort rise to upward of seven Feet in two Years from Seed, and in three or four Years will produce plenty of Flowers: so that they should not remain more than two Years in the Nursery, before they are transplanted out for good, when they grow so vigorously; for these

Trees will not bear transplanting well, after they have grown to be large.

These are Natives of the *Alps* and *Apennines*; so are extremely hardy; and they will thrive in the most exposed Situations, as I have frequently observed: and they have made better Progress in such Places for six or seven Years, than any other Sort of Tree: but after these Trees begin to flower and seed, their Growth is somewhat abated, though they constantly make strong Shoots at the Top; but their Stems do not increase in Bulk, proportionably to the Strength of their Branches; which often occasions their Stems to decline, and grow crooked, if they are not supported. Where these Trees are suffered to stand a long time, they will have Stems equal to small Timber-trees, and the Wood is beautifully veined with Black; which has occasioned the *French* to give it the Name of *Falſe Ebony*. There are some large Trees of this Kind in *Scotland*, which have been suffered to remain; and I have seen one or two in some old *English* Gardens, which had Stems more than three Feet in Girt: but the Reason of our not finding more of these Trees which are grown to a large Size, is, that the Taste in Gardening has often changed; so that the several Alterations which have been made in the *English* Gardens, have occasioned their being cut down, to make room for such Alterations; and these being only considered as flowering Shrubs, few Persons were anxious to save them.

The fourth seldom rises with us to be above five or six Feet high, and may be kept to a regular Head: this should therefore be planted in small Quarters, with Shrubs of the same Growth. It flowers in *June*,

at which time it makes an agreeable Figure; for the Flowers are produc'd in long erect Spikes at the Ends of all the Branches, so that the whole Shrub is cover'd with them. This may be propagated in the same manner as the former: but this Sort is at present very uncommon in the *English* Gardens, though it is equally hardy with the sixth Sort; which is the most common Sort cultivated in the Nurseries; and this is by far the more beautiful Shrub; for the Flowers grow in Spikes near a Foot in Length, which stand erect, and are of a longer Duration than those of the other Sort: so that this deserves to be cultivated, as much as any flowering Shrub now in the Gardens.

The fifth Sort is tender, and requires a Green-house in Winter; where it should be plac'd to have as much free open Air as possible when the Weather is good; but must be screen'd from Frost, and cold nipping Winds. In the Summer it may be expos'd abroad, with Oranges, Myrtles, &c. It should have a fresh light Soil, and frequent Waterings in that Season. This Plant may be either propagated by Seeds (which should be sown on an Hot-bed in the Spring; and when the Plants come up, they may be planted into small Pots, and manag'd as directed for the *African* Tree-milkwort); or by Layers, which should be laid down in the Spring; and if kept duly water'd, will take Root against the succeeding Spring; when they may be taken off, and transplanted into Pots, which should be fill'd with the same light Soil as was before directed; setting the Pots into a shady Place until the Plants have taken fresh Root; after which time they may be expos'd with the old Plants, and manag'd as directed for them.

This Sort produces its Flowers in *April* and *May*; at which time it makes a fine Appearance in the Green-house.

The sixth Sort is very common in the Nurseries about *London*; where it is sold with other flowering Shrubs, to intermix in planting Wilder-ness-quarters. This may be easily propagated by the Seeds, which it produces every Year in great Plenty; which should be sown on a Bed of light Earth in *March*, and a little Earth sifted over the Seeds, so as to cover them about half an Inch. In the Beginning of *May* the Plants will begin to appear, when they should be carefully cleared from Weeds; and in very dry Weather they must be refreshed with Water. In this Bed the Plants may remain till the following Spring, always observing to keep them clear from Weeds; which, if suffered to overbear the Plants while young, will either totally destroy them, or very much retard their Growth. The Spring following they may be transplanted out into Beds of fresh Earth the Beginning of *March*, placing them about a Foot asunder; being careful that the Plants are not kept above ground, but planted as soon as they are taken up; otherwise the Fibres of the Roots will soon dry; which is very prejudicial to young Plants. In these Beds they may remain two Years; after which time they should either be planted out where they are to remain, or else transplanted into a Nursery; placing them in Rows three Feet asunder, and eighteen Inches Distance in the Rows; where they may continue until the Ground is ready where they are design'd to remain. This Plant is very hardy, and will form an handsome Shrub about five or six Feet high; and is very proper to

place amongst flowering Shrubs of the same Growth. It flowers plentifully in *June*, and the Seeds are ripe in *August*; which should be gathered as they ripen, or they will soon scatter.

The eighth, seventeenth, and nineteenth Sorts are somewhat tenderer than the former, and will not abide the open Air in *England* in severe Winters. These may be all propagated by sowing of their Seeds on a moderate Hot-bed in the Spring; and when the Plants are come up they should be each transplanted into a separate Halfpeny Pot filled with fresh Earth, and plunged in a moderate Hot-bed; observing to water and shade them until they take Root; after which they must be inured to the open Air by degrees; and in *June* the Pots should be removed, and placed abroad in a Situation where they may be defended from strong Winds, where they may remain until the Middle of *October*; when they should be removed either into an airy Green-house, or placed under a common Hot-bed-frame; where they should have as much free Air as possible in Winter; for they only require to be defended from hard Frosts; and if they have not much Air, they will draw very weak, and become tender and unsightly. These Plants should be removed into larger Pots the Spring following; and so from Year to Year, as they increase in Size, they should have larger Pots: in Summer they must be kept as long abroad as the Season will permit, and in Winter should have as much Air as possible in mild Weather: with which Management they will thrive, and produce great Plenty of Flowers. When these Plants are become woody, they may be shaken out of the Pots, and planted in the

open Air in a warm Situation ; where they will endure the Cold of our ordinary Winters very well, and flower and produce ripe Seeds every Year, much better than those which are confined in Pots : but it will be proper to keep one Plant of each Kind in Pots, because a very severe Winter may destroy those which stand abroad : so their Kinds may be lost, unless there is one of each Kind preserved by sheltering of them in Winter.

The seventh, ninth, tenth, twelfth, thirteenth, fourteenth, fifteenth, and sixteenth Sorts are hardy enough to live abroad in the open Air, unless in very hard Winters ; and those Plants which are planted in the full Ground, will thrive and flower much better than those which are kept in Pots ; and these will produce plenty of Seeds : so that if a severe Winter should destroy some of them, yet the Seeds will soon supply plenty of Plants again : though when they have stood long in the open Air, there will not be so much Danger of their being killed ; especially when they are intermixed with other Shrubs, which will help to protect them from Frost : therefore if their Heads should happen to be injured by the Cold, their Stems will shoot out again the following Summer. The seventh Sort is now cultivated in plenty in the Nurseries near *London* ; but the others are at present less common ; though, in a few Years, it may be expected to see most of these Sorts in plenty in the *English* Gardens. These may all be propagated by Seeds, in the same manner as is directed for the sixth Sort ; and the Plants may be treated in the same way.

The eighteenth Sort is somewhat tender while young ; but after the Plants have gotten Strength, they

will live in the open Air, if they are are planted in a sheltered Situation.

The *African* Sort is yet tenderer than either of the former ; so will not bear the open Air of our Country in Winter ; but must be constantly preserved in Pots, and removed into the Green-house in Winter, where the Plants should be placed so as to-enjoy as much free Air as possible in mild Weather ; otherwise they will shoot very weak, and become unsightly ; nor will they produce their Flowers in near so great Plenty, as when they are exposed to Air as much as possible in mild Weather.

This Sort is propagated by Seeds, which should be sown early in the Spring, in Pots filled with fresh light Earth ; which should be plunged into an Hot-bed of Tanners Bark, observing to water them gently, as the Earth may require. When the Plants are come up two Inches high, they should be carefully transplanted, each into a separate small Pot, which should be plunged into a moderate Hot bed ; observing to screen them from the Sun until they have taken new Roots ; after which time the Glasses of the Hot-bed should be raised every Day, to admit fresh Air to the Plants ; and they must be duly watered three or four times a Week in warm Weather. By the Beginning of *June*, these Plants will have acquired some Strength ; then they should be inured to bear the open Air by degrees ; and toward the End of *June*, if the Season proves warm, the Plants should be removed out of the Hot-bed, and placed in a warm Situation, where they may remain until *October* ; when they must be removed into Shelter, placing them near the Windows of the Green-house, that they may enjoy a large Share of Air. During the Winter-

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Winter-season, these Plants must be frequently watered; but they must not have too much given them at a time, lest it rot the Fibres of their Roots. In Summer they must be exposed again, with other Exotic Plants, in a sheltered Situation, where they may be defended from strong Winds; and as the Plants increase in Size, they must be put into larger Pots; but they must not be allowed Pots too large; for in these they will not thrive.

The twentieth Sort is yet more tender than the last-mentioned: this, being a Native of the warm Parts of *America*, will not live in this Climate, unless it is preserved in the warmest Stoves. This is propagated by Seeds which should be sown early in the Spring, in Pots filled with rich light Earth, and plunged into an Hot-bed of Tanners Bark, and treated as hath been directed for other tender Plants. In Summer these Plants may be exposed abroad, in a sheltered Situation; but in Winter they must be removed into the Stove, and treated as other tender Exotics.

The twenty-second Sort is preserved as a Curiosity in *Europe*; but in the *West-Indies* it is frequently planted by the Sides of Alleys in Gardens, to form an Hedge, where they will last many Years without decaying; and will thrive on barren Land, which has been worn out, where scarcely any other Plant will prosper. It produces great Quantities of Fruit, which are sometimes eaten by the Inhabitants; but their chief Use is to feed Pigeons; from whence this Plant had its Name. The Branches, with the ripe Peas and Leaves, are given to Hogs, Horses, and most other Cattle, which fatten them very much.

In *England* it is preserved by some

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curious Persons in the Stove; being too tender to live through the Winter in this Climate without artificial Warmth. This Plant may be propagated by Seeds, which should be sown in the same manner as the last-mentioned Sort; and the Plants of this Kind must be placed in a Bark-stove, otherwise they will not flower in *England*.

The twenty-first is a low Plant, which seldom rises above a Foot high, but will live in the open Air. This is also propagated by Seeds, which should be sown upon a Border of common Earth, where the Plants are designed to remain; and the second Year they will produce Flowers and Seeds.

The twenty-third Sort is a Native of *America*, where the Inhabitants have made Indigo from the Plant: this hath an annual Stalk, and a perennial Root: the Stalks rise about two Feet high, and produce their Flowers at the Extremity of the Branches: it is pretty difficult to keep this Plant in the *English* Gardens; for the young Plants require a little Protection from Frost the first Year; but they will not live in Pots, therefore should be kept in the full Ground, and covered in severe Frost.

The twenty-fourth Sort is a low Shrub, seldom rising above three Feet high: this produces its Flowers early in the Spring, which renders it valuable. This is very hardy, and may be propagated by Seeds, in the same manner as the sixth Sort.

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D AFFODIL. *Vide* Narcissus.
DAISIES. *Vide* Bellis.
DALEA.

The Name of this Genus is given to it in Honour of Mr. Dale, an Apothecary

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Apothecary of Braintree in Essex, who published a Book of Medicinal Plants, intituled, *Pharmacologia*.

The Characters are;

It hath a funnel shaped Flower of one Leaf, whose Tube is stretched out a great Length beyond the Empalement, and is a little curved: the Upper-part is spread open, and slightly cut into five Segments; but the upper and lower Part of the Brim join so as to shut up the Mouth of the Tube, and form a Resemblance of a personated Flower: in the Centre is situated the Pointal, attended by four Stamina, two of which are shorter than the other: the Pointal afterward becomes an oval Seed-vessel, having one Cell, and filled with small Seeds.

We know but one Species of this Genus;

DALEA annua erecta ramosa, foliis subrotundis, flore variabili. Upright branching annual Dalea, with roundish Leaves, and variable Flowers.

The Seeds of this Plant were sent to me from *Panama* by the late Mr. Robert Millar, Surgeon; and since the Seeds have been communicated to most Parts of *Europe*. This Name has been altered by Dr. *Linnaeus*, to whom I communicated the Seeds by this Name; but he has given it the Title of *Browallia*, and given the Name of *Dalea* to one Species of *Barbajovis*.

This Plant is propagated by Seeds, which must be sown upon an Hot-bed in the Spring; and the Plants must be treated in the same manner as is directed for the *Amaranthus*; and they may be transplanted into a warm Border in the Latter-end of *June*, where they will flower, and produce ripe Seeds in plenty: the Flowers of this Plant are commonly blue, but they vary to purple and red; and all these Varieties are often seen upon the same Plant: these

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Flowers continue as long as the Weather is favourable; but the first Frost destroys the Plants.

DALECHAMPIA.

This Plant was so named by Father *Plumier*, in Honour to the Memory of *Jacobus Dalechamp*, who was a curious Botanist.

The Characters are;

It hath Male and Female Flowers on the same Plant, which are contained in a many-leav'd prickly Cup: the Female Flowers, with the Embryoes, have two trifid Leaves: the Male Flowers consist of a great Number of Stamina, which are loaded with Farina: the Embryo afterward becomes a Fruit, which is divided into three Parts, each containing one roundish Seed.

We have but one Species of this Plant; which is,

DALECHAMPIA scandens, lupuli foliis, fructu tricocco glabro, calyce hispido. *Houff.* Climbing Dalechampia, with Leaves like Hops, and a smooth three-seeded Fruit, and a prickly Cup.

This Plant is a Native of the warm Parts of *America*: it was discovered by Father *Plumier* in *Martinico*; but either he was mistaken in his Description of the Fruit, or his Kind is different from that which the late Dr. *Houffoun* observed in several Places in the *Spanish West-Indies*; for Father *Plumier* describes the Fruit to be prickly, in the Sort which he saw; whereas that of Dr. *Houffoun* has smooth Fruit, inclosed in a prickly Cup.

This Plant is propagated by Seeds, which must be sown early in the Spring on an Hot-bed; and when the Plants are come up three Inches high, they should be carefully transplanted, each into a separate small Pot filled with rich light Earth, and then plunged into an Hot-bed of

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Tanners Bark; being careful to screen them from the Sun, until they have taken new Root; after which the Glasses of the Hot-bed should be raised every Day in proportion to the Heat of the Weather, to admit fresh Air to the Plants: they must also be frequently watered, for they naturally grow in moist Places. When the Plants have grown so large as to fill these Pots with their Roots, they should be removed into larger Pots, and placed in the Bark-bed in the Stove; where they must be supported either with Stakes, or a Trellace, round which they will twine, and rise to the Height of eight or ten Feet.

These Plants must be kept constantly in the Stove; for they are too tender to bear the open Air in this Country, even in the Summer-season: therefore they should be placed with Convolvulus's, and other twining Plants, near the Back of the Stove, where should be made an Espalier to support them; in which Situation they will thrive, and produce their Flowers, and sometimes will perfect their Seeds in this Country: but, in order to this, they should have a large Share of fresh Air in warm Weather, by drawing down the upper Glasses of the Stove; but in Winter the Stove should be kept to a temperate Heat, or rather higher. In Summer they will require a large Share of Water; but in Winter it should be given to them in less Quantities, but must be frequently repeated. These Plants do not continue above two or three Years; so that young Plants should be raised in order to preserve the Kind.

DAMASONIUM, Star-headed Water-plantain.

The Characters are;

It hath a Flower composed of three

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Leaves, which are placed orbicularly, and expand in form of a Rose: out of the Flower-cup rises the Pointal, which afterward becomes a star-shaped Fruit, with many Cells, which are full of oblong Seeds.

The Species are;

1. DAMASONIUM *stellatum*. Lugd. Star-headed Water-plantain.

2. DAMASONIUM *Americanum maximum, plantaginis folio, flore flavescente, fructu globofo*. Plum. Greatest American Water-plantain, with a Plantain-leaf, a yellowish Flower, and a globular Fruit.

The first of these Plants is a Native of England: it grows commonly in standing Waters, which are not very deep. It is sometimes used in Medicine, but never cultivated in Gardens; so must be gathered for Use in the Places of its Growth.

The second Sort grows in Jamaica, Barbados, and several other Places in the warm Parts of America, where it is generally found in stagnating Waters, and other swampy Places: so that it would be difficult to preserve this Plant in England: for it will not live in the open Air, and requires a Bog to make it thrive: but as it is a Plant of no great Beauty or Use, it is not worth the Trouble of cultivating in this Country.

DANDELION. *Vide Dens Leonis*.

DATE-TREE. *Vide Palma*.

DAUCUS, The Carrot.

The Characters are;

It hath, for the most part, a fleshy Root: the Leaves are divided into narrow Segments: the Petals of the Flower are unequal, and shaped like an Heart: the Umbel, when ripe, is hollow'd and contracted, appearing somewhat like a Bird's Nest: the Seeds are hairy, and in Shape of Lice.

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The Species are ;

1. *DAUCUS vulgaris. Clus.* Common wild Carrot.

2. *DAUCUS sylvestris humilior, latiore folio.* Dwarf wild Carrot, with broader Leaves.

3. *DAUCUS sativus, radice atrov rubente. Tourn.* Dark red-rooted Garden Carrot.

4. *DAUCUS sativus, radice aurantii coloris. Tourn.* The orange-colour'd Carrot.

5. *DAUCUS sativus, radice alba. Tourn.* The white Carrot.

The first of these Species grows wild upon arable Land in most Parts of England, and is seldom cultivated, except in Botanic Gardens. This is the particular Sort which should be us'd in Medicine, and for which the Druggists commonly sell the Seeds of the Garden Carrot.

The second Sort was found by Mr. Rand near Dover, and is specifically different from the common Sort, as hath been prov'd by sowing them together in a Garden for several Years.

The fourth Sort is commonly cultivated in Gardens for the Kitchen ; as is the fifth Sort, though not so common in England as the former : nor would they be worth the Gardeners while to propagate them ; for their pale Colour would render them less acceptable in the Markets, where the deepest-colour'd Carrots are always most esteem'd, though, for the Table, the white are generally preferred as the sweetest.

They are propagated at two or three different Seasons, or sometimes oftener, where People are fond of young Carrots through all the Summer-months. The first Season for sowing the Seeds is soon after Christmas, if the Weather is open, which should be in warm Borders, near Walls, Pales, or Hedges : but they

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should not be sown immediately close thereto ; but a Border of Lettuce, or other young Salad-herbs, of about a Foot wide, should be next the Wall, &c. for if the Carrots were sown close to the Wall, they would run up to Seed without making any tolerable Roots.

These delight in a warm sandy Soil, which is light, and should be dug pretty deep, that the Roots may the better run down ; for if they meet with any Obstruction, they are very apt to grow forked, and shoot out lateral Roots, especially where the Ground is too much dunged the same Year that the Seeds are sown, which will also occasion their being worm-eaten : it is therefore the better Method to dung the Ground intended for Carrots the Year before they are sown, that it may be consumed, and mixed with the Earth.

These Seeds have a great Quantity of small forked Hairs upon their Borders, by which they closely adhere, so that they are difficult to sow even, so as not to come up in Patches ; you should therefore rub it well through both Hands, whereby the Seed will be separated before it is sown : then you should choose a calm Day to sow it ; for if the Wind blows, it will be impossible to sow it equal ; for the Seeds, being very light, will be blown into Heaps. When the Seed is sown, you should tread the Ground pretty close with your Feet, that it may be buried, and then rake the Ground level.

When the Plants are come up, you should hoe the Ground with a small Hoe about three Inches wide, cutting down all young Weeds, and separating the Plants to four Inches Distance each Way, that they may get Strength ; and in about three Weeks after, when the Weeds be-

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gin to grow again, you should hoe the Ground over a second time, in which you should be careful not to leave two Carrots close to each other, as also to separate them to a greater Distance, cutting down all Weeds, and slightly stirring the Surface of the Ground in every Place, the better to prevent young Weeds from springing, as also to facilitate the Growth of the young Carrots.

In about three Weeks or a Month after, you must hoe them a third time, when you must clear the Weeds as before; and now you should cut out the Carrots to the Distance they are to remain, which must be proportion'd to the Size you intend to have them grow: if they are to be drawn while young, four or five Inches asunder will be sufficient; but if they are to grow large before they are pulled up, they should be left seven or eight Inches distant every Way: you must also keep them clear from Weeds, which, if suffer'd to grow amongst the Carrots, will greatly prejudice them.

The second Season for sowing these Seeds is in *February*, on warm Banks situated near the Shelter of a Wall, Pale, or Hedge; but those which are intended for the open large Quarters, should not be sown before the Beginning of *March*, nor should you sow any later than the End of the same Month; for those which are sown in *April* or *May* will run up to Seed before their Roots have any Bulk, especially if the Weather should prove hot and dry.

In *July* you may sow again, for an autumnal Crop; and in the End of *August* you may sow some to stand the Winter; by which Method you will have early Carrots in *April*, before the Spring-sowing will be fit to draw; but these are seldom so well tasted, and are often very tough and

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sticky. Many People mix several other Sorts of Seeds, as Leek, Onion, Parsnep, Radish, &c. amongst their Carrots; and others plant Beans, &c. but, in my Opinion, neither of these Methods are good; for, if there is a full Crop of any one of these Plants, there can be no room for any thing else amongst them; so that what is got by the one is lost by another; and besides, it is not only more slightly, but better, for the Plants of each Kind to be sown separate; and also by this means your Ground will be clear, when the Crop is gone, to sow or plant any thing else; but when three or four Kinds are mixed together, the Ground is seldom at Liberty before the succeeding Spring: besides, where Beans, or any other tall-growing Plants, are planted amongst the Carrots, it is apt to make them grow more in Top than Root; so that they will not be half so large as if sown singly without any other Plants amongst them.

But in order to preserve your Carrots for Use all the Winter and Spring, you should, about the Beginning of *November*, when the green Leaves are decayed, dig them up, and lay them in Sand in a dry Place, where the Frost cannot come to them, taking them out from time to time as you have Occasion for them, reserving some of the longest and straitest Roots for Seed, if you intend to save any; which Roots should be planted in the Middle of *February*, in a light Soil, about a Foot asunder each Way, observing to keep the Ground clear from Weeds; and about the Middle of *August*, when you find the Seeds are ripe, you must cut it off, and carry it to a dry Place, where it should be exposed to the Sun and Air for several Days to dry; then you may beat out the Seeds, and put it up in Bags, keeping

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keeping it in a dry Place until you use it. This Seed is seldom esteemed very good after the first or second Year at most; but new Seed is always preferr'd, nor will it grow when it is more than two Years old.

DAUCUS CRETICUS. *Vide Myrrhis.*

DAY-LILY. *Vide Hemerocallis.*

DELPHINIUM, Larkspur.

The Characters are;

It hath an anomalous Flower, consisting of many dissimilar Petals, or Flower-leaves; the uppermost of which is contracted, and ends in a Tail or Spur, and receives another bifid Petal, which, in like manner, ends in a Tail: in the Middle arises the Pointal, which becomes a Fruit, consisting of many Pods or Sheaths collected into an Head, which open likewise, and are fill'd with Seeds, which are for the most part angular.

The Species are;

1. DELPHINIUM *perenne montanum villosum, aconiti folio.* Tourn. Perennial Mountain hairy Larkspur, with a Monk's-hood-leaf.

2. DELPHINIUM *latifolium, parvo flore.* Tourn. Broad-leav'd Larkspur, with a small Flower.

3. DELPHINIUM *platani folio, Staphysagria dictum.* Tourn. Larkspur with a Plane-tree-leaf, commonly called Staveacre, or Louf-wort.

4. DELPHINIUM *segetum, flore cœruleo.* Tourn. Corn Larkspur, with a blue Flower.

5. DELPHINIUM *vulgare, flore multiplici.* Tourn. Common Larkspur, with a double Flower.

6. DELPHINIUM *hortense, flore majore & multiplici cœruleo.* Tourn. Garden Larkspur, with a large double blue Flower.

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7. DELPHINIUM *hortense, flore majore & multiplici incarnato.* Tourn. Garden Larkspur, with a large double flesh-colour'd Flower.

8. DELPHINIUM *hortense, flore majore & multiplici violaceo.* Tourn. Garden Larkspur, with a large double violet-colour'd Flower.

9. DELPHINIUM *hortense, flore majore & multiplici rubro.* Tourn. Garden Larkspur, with a large double red Flower.

10. DELPHINIUM *hortense, flore majore & multiplici purpureo ex albo variegato.* Tourn. Garden Larkspur, with a large double Flower of a purple Colour, variegated with White.

11. DELPHINIUM *hortense, flore roseo punctato.* Tourn. Garden Larkspur, with a spotted rose-coloured Flower.

There are several other Varieties of this Plant, which differ either in the Colour or Size of their Flowers; but as most of them are accidental, and arise from Seeds of the same Plant, I shall pass them over, without enumerating all their minute Differences.

The first Species here mentioned is a Native of the *Alps*, and is remarkably different from the other Kinds of Larkspur, in being an abiding Plant: this is propagated by sowing the Seeds in an open light Soil in *March*; and when the Plants are come up, they may be transplanted into shady Borders at a Foot Distance from each other, where they may stand until the second Year; by which time they will have Strength to produce Flowers, and may then be transplanted into Borders in the Pleasure-garden, amongst other flowering Plants, where they will make an handsome Appearance when in Flower.

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The second Sort is not near so beautiful as the first; but is preserved in curious Gardens of Plants, for its Variety. The Flowers of this Kind are very small; and it is commonly so late in the Season before they are produced, that they seldom perfect their Seeds with us, unless the Plants come up in Autumn, and abide the Winter. The Seeds of this Plant I received from my honoured Friend Mr. *Henry Hopkey*, who gathered it on *Gibraltar Hills*, where it grows wild.

The third Sort is the *Starvesacre*, the Seeds of which are used in Medicine: this is a large handsome Plant, and produces fair large Flowers: the Seeds of this should be sown in a light sandy Soil, and a warm Situation, soon after it is ripe; for if it be kept until Spring, it very often miscarries, or at least will remain in the Ground until the following Autumn, before the Plants will appear: but if the Seeds are sown in *August*, as soon as they are ripe, the Plants will come up the same Autumn, or early in the Spring, and will produce Flowers the following Summer.

This Plant is preserved in many curious Gardens of Plants, and is worthy of a Place in the Borders of the Flower-garden, for its long Continuance in Flower, and the Beauty of the large Leaves, especially as it grows erect, and takes up but little room. It is an annual Plant, which dies as soon as the Seeds are perfected.

The other Sorts are commonly cultivated in Gardens, for the Beauty of their Flowers; where, when the several Varieties are intermixed in a Bed, they make a goodly Shew. The Seeds of these should be sown in Autumn, soon after they are ripe; for those sown in the Spring do not

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grow near so large, nor will their Flowers be so double. When the Plants come up, they should be either transplanted out, or some of them pull'd up; so that the remaining Plants may be left eight or ten Inches Distance each Way; whereby they will have room to grow, and spread their Branches, which they generally produce in great Plenty, and their Flowers will be produced in larger Bunches. They will require no farther Care, but to keep them clear from Weeds. In *June* these Plants will flower; and their Seeds will ripen about the Beginning of *August*: but in order to have your Flowers more beautiful, you should mark such only for Seeds as produced very double and finely-variegated Flowers, pulling up or cutting off all single or plain-colour'd Flowers.

The Sort of *Larkspur* with branching Stalks should be sown separately, and not mixed with the upright Sort, because they do not flower together: the upright Sort will be past flowering, before the branching Sort begins, when the Seeds are sown at the same time: there are a greater Variety of Colours in the Flowers of the upright, than in those of the branching Kind: and as the Flowers of these are produced in large close Spikes, so when they are very double, and of fine Colours, they make a fine Appearance during the Season of their Flowering. The Plants of this Sort will not require so much room as those of the branching Kind; therefore when they are sown in whole Beds, if the Plants are singled out to the Distance of six or seven Inches apart, it will be sufficient room for them; whereas the branching Kind must not be left nearer than ten Inches or a Foot asunder. If there are some

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of each Sort sown in Autumn, and again in the Spring, there will be a Succession of their Flowers.

The branching Kind seldom begins to flower until the Middle of July, when the Seeds are sown in Autumn; but when they are sown in the Spring, it is generally a Month later; so that if the Autumn is not favourable, these Spring Plants do not ripen their Seeds; so that, in order to have good Seeds, the best Plants of those sown in Autumn must be marked to stand for Seeds; but where some of the finest Colours, and most double Flowers, of each Kind are chosen to save their Seeds, it will be very proper to pull up all the other Plants which are near them; by which you will preserve the Sorts in greater Perfection than can be otherwise done; for these Flowers are very apt to degenerate where there is not the greatest Care taken in saving of their Seeds: it will also be very proper to exchange the Seeds every other Year, with some careful Person, at a Distance; which will also be a Means of continuing these Kinds in the greatest Perfection.

DENS CANIS, Dog's-tooth.

The Characters are;

It hath a fleshy Root shaped like a Dog's Tooth: the Leaves are broad, and spread upon the Ground, and, in Appearance, like those of the round-leav'd Sow-bread: the Flower is naked, and produced single upon each Stalk, each consisting of six Leaves, and shaped like a Lily, and hang downward: the Petals of this Flower are reflex'd: the Pointal of the Flower becomes a roundish Fruit, in which are contained many oblong Seeds.

The Species are;

1. DENS CANIS *latiore rotundiorumque folio, flore candido.* C. B. The broad round-leav'd Dog's-tooth, with a white Flower.

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2. DENS CANIS *latiore rotundiorumque folio, flore ex purpura rubente, majore.* C. B. Broad round-leav'd Dog's-tooth, with a large purplish-red Flower.

3. DENS CANIS *angustiore longiorumque folio, flore albo.* C. B. Long narrow-leav'd Dog's-tooth, with a white Flower.

4. DENS CANIS *angustiore longiorumque folio, flore suave-rubente.* H. R. Par. Long narrow-leav'd Dog's-tooth, with a fine red Flower.

There are some other Varieties of this Plant in the curious Gardens abroad; but these here mentioned are all that I have yet seen in England: the two first-mention'd are the most common with us; the other two being very rare at present, and only to be found in a few curious Gardens.

These Plants are propagated by sowing their Seeds, as also by Offsets from the old Roots. The Season for sowing these Seeds, and the Method of raising and managing the young Plants, being the same as directed for the Narcissus, I shall refer the Reader thereto, to avoid Repetition.

The Off-sets, which these Roots produce but sparingly, should be taken off at the time when the old Roots are transplanted, which should be when the green Leaves decay, which is commonly towards the latter-end of May; but the Roots should not be kept long above-ground; for then they are apt to shrivel and dry up; and if this happens, they seldom recover again. These Plants delight in a good fresh Soil, neither too light nor too heavy, but such as is of a middling Nature, and not over-dung'd; and they should have an East or West Aspect; for if they are planted in a very warm or an extreme cold Situation, they seldom thrive

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thrive well. They produce their Flowers early in March, for which they are valued, as also for the Beauty of their green Leaves. If Seeds of the different Sorts are sown, there may be some new Varieties obtain'd, which is well worth the Trial, where we have so few Species of an early beautiful Flower as of this.

DENS LEONIS, Dandelion.

The Characters are;

It agrees in all respects with the Hawkweed, but only in its having a single naked Stalk with one Flower upon the Top; whereas the Hawkweeds have branching Stalks; to which may be added, The Flowers are, for the most part, fistulous or piped.

There are several Species of this Plant, which are preserved in curious Botanic Gardens: but as they are Plants of no great Use, and withal are very troublesome in a good Garden, if suffered to seed; so they are never propagated. We have three or four Varieties which grow wild in England; but the most common broad-leav'd Kind is what is used in Medicine. There are also some People very fond of it blanch'd in the Spring, like Endive; but whoever has a mind to have it for either Use, may be abundantly supplied in the Fields.

DENTARIA, Toothwort.

The Characters are;

It hath a Flower consisting of four Leaves, which expand in form of a Cross; out of whose Flower-cup rises the Pointal, which afterward becomes a Fruit or Pod, which is divided into two Cells, by an intermediate Partition, to which the Valves adhere on both Sides; and is furnished with roundish Seeds: to these Marks should be added, The Valves, when ripe, twist up like a Screw, and discharge the Seeds with Violence; and the Roots

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are fleshy, scaly, and cut in, as it were, with Teeth.

The Species are;

1. DENTARIA heptaphyllos. C. B. P. Seven-leav'd Toothwort.

2. DENTARIA pentaphyllos, foliis mollioribus. C. B. P. Five-leav'd Toothwort, with soft Leaves.

3. DENTARIA pentaphyllos, foliis asperis. C. B. P. Five-leav'd Toothwort, with rough Leaves.

4. DENTARIA heptaphyllos baccifera. C. B. P. Seven-leav'd berry-bearing Toothwort.

5. DENTARIA triphyllos. C. B. P. Three-leav'd Toothwort.

6. DENTARIA enneaphyllos, Montis Aurei. H. R. Par. Nine-leav'd Toothwort of Mount d'Or.

These Plants grow on the Mountains in Italy, and in the Woods of Austria. The first Sort is found wild in some Parts of England, but particularly near Harefield, in moist shady Woods, and is seldom preserved in Gardens: this produces Bulbs on the Side of the Stalks, where the Leaves are set on, which, if planted, will grow, and produce Plants. These Plants are propagated by Seeds, or parting their Roots; the Seeds should be sown in Autumn, soon after they are ripe, in a light sandy Soil, and a shady Situation: in the Spring the Plants may be taken up where they grow too close, and transplanted out in the like Soil and Situation; where, after they have taken Root, they will require no farther Care, but to keep them clear from Weeds: the second Year they will produce Flowers, and sometimes will perfect their Seeds.

The best time to transplant the Roots is in October, when they should be planted in a moist Soil, and a shady Situation; for they will not live in a dry Soil, or when they are exposed to the Sun.

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These Plants have no great Beauty in their Flowers; so are seldom preserved in Gardens for Pleasure; but by such Persons as are curious in Botany, they are preserved to add to the Variety.

DIAPENSIA. *Vide Sanicula.*

DICTAMNUS ALBUS. *Vide Fraxinella.*

DICTAMNUS, Dittany.

The Characters are;

The Flower-cup consists of two Leaves; after that another athwart the former; and again a third in like manner, until a scaly Head be thence formed: out of the Centre of all these Scales grows a Flower, whose Crest is erect, roundish, and bifid: the Beard is divided into three Parts: these little Flowers come forth from leafy Scales after the manner of the Verticillate Plants, in a long loose Spike.

The Species are;

1. DICTAMNUS Creticus. C. B. Dittany of Crete.

2. DICTAMNUS montis Sipyli, origani foliis. Flor. Bat. Dittany from Mount Sipylus, with Wild-marjoram-leaves.

The first of these Plants hath been renowned for many Ages, upon the account of its sovereign Qualities in Medicine. This is generally brought over dry from the Levant, and is still used in some of the grand Preparations.

This Plant, although a Native of a warmer Country than ours, yet is tolerably hardy, and will endure the Cold of our common Winters, if planted in the open Air, provided it is planted in a dry sandy Soil. It may be propagated by planting Cuttings in any of the Summer-months; which must be shaded and watered until they have taken Root; afterwards they may be either planted in Pots, or in a warm Border under a South Wall, where they will remain

for several Years, unless destroyed by violent hard Frosts; for which Reason 'tis adviseable always to keep a Pot or two of this Plant under a Frame as a Reserve, in case those abroad should be destroyed. This Plant produces its Flowers in June and July; but the Seeds are seldom perfected in this Climate: and although there is no great Beauty in the Flowers of this Plant; yet, for the Variety of its round hoary sweet-smelling Leaves, it deserves a Place in very good Gardens.

The second Sort was found upon Mount Sipylus, by Sir G. Wheeler in his Travels, and by him sent to Oxford. This is a very neat Plant, affording long Spikes of Flowers, which continue a long time in Beauty; and deserves a Place with the former in every good Garden. This is propagated and managed as the other in every respect.

DIERVILLA [This Plant was so named by Dr. Tournefort, from Mr. Dierville, a Surgeon, who brought it from Acadia]. We have no English Name for this Plant.

The Characters are;

It hath a Flower consisting of one Leaf, which is tubulous, and divided into five Parts: the Ovary, which crowns the Pointal, is produced from the Centre of the two-leav'd Calyx: and after the Flower is passed, it becomes a pyramidal Fruit divided into four Cells, which are filled with small Seeds.

We have but one Species of this Plant at present in Europe; which is,

DIERVILLA Acadiensis fruticosa, flore luteo. Acad. Reg. Scien. Shrub by Dierville of Acadia, with a yellow Flower.

This is a very low Shrub, seldom rising to the Height of three Feet in England; but is very subject to spread at the Root, and become bushy.

bulky. The Flowers are small, and produced sparsely on the Branches, so that it doth not make any good Appearance in a Garden; but as it is very hardy, it may be admitted as an Under-shrub, to fill up Vacancies in Wilderness-quarters, where it will add to the Variety. It is easily propagated from Suckers, which it generally produces in great Plenty from the Root, or by laying down the Branches. It requires a Soil not too hot and dry, nor overwet, but of a middling Nature.

This Plant is now cultivated in some of the curious Nurseries about London, for Sale, as are many of the hardy Trees and Shrubs, some of which have not more Beauty than this; but as they increase the Variety in Gardens, they are at present much in Request.

DIGITALIS, Fox-glove.

The Characters are;

The Leaves are produced alternately on the Branches: the Cup of the Flower consists of one Leaf, which is divided into six ample long Segments: the Flower consists of one Leaf, is tubulose and compress'd, and a little reflex'd at the Brim: these Flowers are disposed in a long Spike, and always grow upon one Side of the Stalk: the Ovary of the Flower becomes a roundish Fruit, which ends in a Point, and opens in the Middle: it has two Cells, in which are contained many small Seeds.

The Species are;

1. DIGITALIS *purpurea*. J. B. The purple Fox-glove.
2. DIGITALIS *vulgaris*, *flore carneo*. Hort. Edinb. Common flesh-colour'd Fox glove.
3. DIGITALIS *flore magno candido*. J. B. Fox-glove with a large white Flower.
4. DIGITALIS *latifolia*, *flore ferrugineo*.

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rugineo. Mor. Hist. Broad-leav'd Fox-glove, with an iron-coloured Flower.

5. DIGITALIS *angustifolia*, *flore ferrugineo*. C. B. Narrow-leav'd Fox-glove, with an iron-coloured Flower.

6. DIGITALIS *lutea*, *magno flore*. C. B. Fox-glove with a large yellow Flower.

7. DIGITALIS *major lutea vel pallida*, *parvo flore*. C. B. Greater Fox-glove, with a small pale-yellow Flower.

8. DIGITALIS *Orientalis*, *folio tragopogi*, *flore albido*. T. Cor. Eastern Fox-glove, with a Goat's beard-leaf, and a whitish Flower.

9. DIGITALIS *Hispanica purpurea minor*. Inst. R. H. Smaller purple Spanish Fox-glove.

10. DIGITALIS *latifolia*, *flore ferrugineo minore*. H. R. Par. Broad-leav'd Fox-glove, with a smaller iron-colour'd Flower.

The first of these Plants is very common in shady Woods, and upon uncultivated Heaths, in divers Parts of England: the two next are also Varieties of the first, from which they only differ in the Colour of the Flowers.

The fourth, fifth, sixth, and tenth Sorts are preserved in Gardens, for the Beauty of their Plants, being very ornamental Flowers to a Garden, as they continue a long time in Flower, and do not take up much room in the Borders; therefore are as well worth cultivating as many other Plants, which are perhaps more rare, as they have been lately introduced; but some of these Kinds of Fox-gloves, which were formerly more common in the English Gardens, have, by Neglect, become uncommon at present: but the seventh, eighth, and ninth Sorts are only cultivated

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tivated in Botanic Gardens for the sake of Variety, as being Plants of no great Beauty.

These Plants may all be propagated by sowing their Seeds in Autumn, in a fresh Soil, that is not too stiff; and when the Plants come up, they should be transplanted into Beds six Inches asunder, where they may remain until the *Michaelmas* following, observing to keep them clear from Weeds; then you may transplant them into the Middle of large Borders, intermixing the Variety of Colours at regular Distances amongst Flowers of the same Growth. In *May* following these will produce their Flowers, which will continue near a Month in Beauty, if the Season is not too hot and dry, and in *August* the Seeds will ripen; which, if permitted to fall to the Ground, will come up in great Plenty, and abundantly stock the Garden with Plants.

Most of these Sorts seldom remain above two Years, when, after having perfected their Seeds, they die, unless Care be taken to cut off the Flowers when they are in Beauty, before they begin to decay, which often causes the Roots to break out again, whereby they may be kept for several Years, especially the iron-colour'd Sorts; and may be increas'd by parting their Roots.

These Plants thrive best in a poor undung'd fresh Soil, nor can they be maintained many Years in a rich Soil; and their Flowers will be, when planted therein, much smaller, and of shorter Duration; and altho' they are some of them common in *England*, yet they make a very good Appearance in large Gardens.

The Seeds of all the Sorts of Foxgloves should be sown in Autumn soon after they are ripe; for those which are sown in the Spring often

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fail; or if they grow, commonly lie in the Ground a Year, before they appear; whereas those Seeds, which are sown in Autumn, rarely fail to come up the next Spring.

DILL. *Vide* Anethum.

DIOSCOREA [This Plant was so named by Father *Plumier*, from *Pedacius Dioscorides*, a famous Physician]. We have no *English* Name for this Plant.

The Characters are;

It hath a spreading bell-shaped Flower, consisting of one Leaf, which is divided at the Extremity into several Parts; from whose Cup arises the Pointal, which afterward becomes a triangular Fruit, divided into three Cells; in which are contained orbicular Seeds, which are bordered.

The Species are;

1. DIOSCOREA *scandens, foliis tamni, fructu racemoso.* *Plum. Nov. Gen.* Climbing Dioscorea, with Black-bryony-leaves, and the Fruit growing in Clusters.

2. DIOSCOREA *scandens, folio hastato, fructu racemoso.* *Houft.* Climbing Dioscorea, with a spear-shaped Leaf, and clustered Fruit.

3. DIOSCOREA *scandens, folio subrotundo acuminato, fructu racemoso.* *Houft.* Climbing Dioscorea, with a roundish Leaf ending in a Point, and clustered Fruit.

4. DIOSCOREA *foliis cordatis acuminatis, nervis lateralibus ad medium folii terminatis, mas.* *Flor. Virg.* Male Dioscorea, with pointed heart-shaped Leaves.

5. DIOSCOREA *foliis cordatis, caule lævi, mas.* *Lin. Hort.* The Yam, or *Indian* Potato.

The first, second, and third Sorts grow wild in most of the warm Parts of *America*, where they twist themselves up to any Trees or Shrubs, which grow near them; and rise to a great Height, much like the black

Bryony

Bryony in *Europe*. They are Male and Female in different Plants, as in the Tamnus, or black Bryony, to which these Plants are near of Kin.

The fourth Sort is a Native in *North America*, from whence the Seeds have been sent; and some of the Plants are preserved in the Gardens of some curious Persons. This Sort will live in the open Air in *England*; but the other three Sorts are so tender, as not to be preserved, unless they are kept in a warm Stove.

These Plants die to the Ground every Autumn, and shoot up again the following Spring; and will climb up Stakes, to the Height of ten or twelve Feet, and sometimes produce Flowers in *England*: but as they have little Beauty, the Plants are rarely preserved, except by Botanists.

The fifth Sort is much cultivated by the Inhabitants of the Islands in *America*, and is of great Use to them for feeding of their Negroes; and the white People make Puddens of the Roots, when ground to a sort of Flour. This Plant is supposed to have been brought from the *East* to the *West-Indies*; for it has not been discovered to grow wild in any Part of *America*; but in the Island of *Ceylon*, and on the Coast of *Malabar*, it grows in the Woods; and there are in those Places a great Variety of Sorts.

The Sort which is chiefly cultivated in the *West-Indies* has a Root as big as a Man's Leg, of an irregular Form, and of a dirty brown Colour on the Outside; but when cut, are white and mealy within. The Stalks of this Plant are triangular and winged: the Leaves are heart-shaped, having two Ears, somewhat like those of Arum. These Stalks climb to the Height of ten or twelve Feet,

when they grow near Trees or Shrubs, to which they fasten themselves, otherwise they trail upon the Ground.

This Plant is propagated by cutting the Root into Pieces, observing to preserve an Eye or Bud to each, as is practised in planting of Potatoes; each of these, being planted, will grow, and produce three or four large Roots: in *America* they are commonly six or eight Months in the Ground before the Roots are taken up for Use. The Roots are roasted or boiled, and eaten, by the Inhabitants; and sometimes are made into Bread.

In some curious Gardens this Plant is preserved for the sake of Variety; but it is so tender as not to live in *England*, unless it is placed in a warm Stove: as these Roots are frequently brought from *America*, so whoever hath an Inclination to preserve the Plant, may cut them in the manner before-described; and plant each Piece in a Pot filled with fresh Earth, and plunged into an Hot-bed of Tanners Bark, and give them little Water until they shoot, lest they should rot. With this Management I have had the Shoots ten Feet high; but the Roots have not grown to any great Size with me. This Plant will not thrive in the open Air, in the warmest time of the Year; so must constantly be kept in the Bark-stove.

DIOSMA, *African Spiræa, vulgo.*

The Characters are;

The Empalement of the Flower is cut into five Parts: there are five obtuse Petals in the Flower: in the Centre is situated the Pointal, attended by five Stamina, supporting oval Summits: the Pointal afterward becomes an oval five-cornered Capsule, having five Cells, each having one oval-pointed hard Seed.

The Species are;

1. *DIOSMA foliis linearibus hirsutis*. Lin. Hort. Cliff. African Spiræa, with narrow hairy Leaves.

2. *DIOSMA foliis subulatis acutis*. Lin. Hort. Cliff. African Spiræa, with taper-pointed Leaves, placed in form of a Cross.

3. *DIOSMA foliis setaceis acutis*. Lin. Hort. Cliff. Low African Spiræa, with Leaves like Heath.

These Plants are Natives of the Country near the Cape of Good Hope, where they grow on hilly mountainous Places; and have been transported from thence into the curious Gardens in Holland; and from thence have been communicated to the several Gardens in Europe, where they are preserved by those Persons who are curious in Exotic Plants.

The first Sort has been long known under the Title of *Spiræa Africana odorata, foliis pilosis*, or Sweet-scented African Spiræa, with hairy Leaves. This Sort makes a very handsome Shrub, growing to the Height of five or six Feet: the Stalks are of a fine coral Colour; the Leaves come out alternately on every Side of the Branches, which are narrow-pointed and hairy: the Flowers are produced in small Clusters at the Ends of the Shoots, which are small and white; these are succeeded by starry Seed-vessels, having five Corners, like those of the starry Anise: each of these Corners is a Cell, having one smooth shining oblong black Seed: these Seed-vessels abound with a Resin, which affords a grateful Scent, as doth also the whole Plant.

The second Sort seldom rises so high as the former; and the Branches are very long and slender, and are produced from the Stem very irregularly: the Leaves are placed cross-

wise, and are pointed; these are every Evening closed up to the Branches: the Flowers are produced along the Branches from between the Leaves; and in the Evening, when these Flowers are expanded, and the Leaves are closely embracing the Stalks, the whole Plant appears, as if covered with Spikes of white Flowers; and as these Plants continue a long time in Flower, they make a fine Appearance when they are intermixed with other Exotics.

The third Sort is yet of humbler Growth than either of the former Sorts, seldom rising above two Feet high, and spreads out into many Branches: the Leaves of this Sort are smooth, and resemble those of the Heath; and the Plant from thence had the Name of *Ericæformis coridis folio*, &c. given to it by Dr. Plukenet: the Flowers of this Kind are produced in Clusters, at the End of the Branches, like those of the first Sort; but are smaller, and the Bunches not so large.

All these Plants are propagated by Cuttings, which may be planted during any of the Summer-months, in Pots filled with fresh light Earth, and plunged into a moderate Hot-bed, where they should be shaded in the Day-time from the Sun, and frequently refreshed with Water: in about two Months the Cuttings will have taken Root, when they should be each transplanted into a small Pot, and placed in a shady Situation until the Plants have taken fresh Root, when they may be put among other Exotic Plants, in a sheltered Place: these Plants may remain abroad until the Beginning of October, or later, if the Season continues favourable; for they only require to be shelter'd from Frost; so that in a dry airy Green-house they may be preserved

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very well in Winter; and in Summer they may be exposed to the open Air with other Green-house-plants.

The second and third Sorts take Root much sooner, and more certainly, from Cuttings, than the first; which many times require five or six Months to remain in the Pots before they will have made Roots sufficient to transplant.

The first Sort frequently ripens its Seeds in *England*; but if the Seeds are not sown soon after they are ripe, they rarely grow; and these commonly lie a whole Year in the Ground.

DIOSPYROS. The *Indian Date Plum*.

The *Characters* are;

The Empalement of the Flower is of one Leaf, divided at the Top into four Parts: the Flower is of one Leaf, and is of the oval bell-shaped Kind, slightly cut at the Brim into five Parts: in the Centre of the Flower is situated the Pointal, attended by eight short Stamina: the Pointal afterwards becomes a soft Fruit or Berry, resting in the expanded Empalement, and inclosing oval flat Seeds.

The *Species* are;

1. *DIOSPYROS foliis utrinque bicoloribus. Flor. Leyd.* The *Indian Date Plum*.

2. *DIOSPYROS foliis utrinque concoloribus. Lin. Hort. Cliff.* The *Pishamin* or *Perfimon*, and by some *Pitchumon Plum*.

The first Sort is supposed to be a Native of *Africa*; and was transplanted from thence into several Parts of *Italy*, and also the South of *France*. The Fruit of this Tree is by some supposed to be the *Lotus*, which *Ulysses* and his Companions were enchanted with. This is a Tree of middling Growth in the

warm Parts of *Europe*, where there are several of them which are upward of thirty Feet high; but particularly in the Botanic Garden at *Padua* there is one very old Tree, which has been described by some of the former Botanists, under the Title of *Guaiaicum Patavinum*. This Tree produces plenty of Fruit every Year; from the Seeds of which many Plants have been raised. In *England* there are none of these Trees but what have been raised within a few Years past, in the Physic-garden at *Chelsea*: for the Seeds of which I was greatly obliged to my much honoured Friend, his Excellency the Chevalier *Rathgeb*, his Imperial Majesty's Minister at *Venice*; who has also supplied me with many other curious Plants, Trees, and Fruits, from different Parts of the World; where his extensive Correspondence has been employed to collect whatever rare Plants he could procure; and his Generosity in communicating what Seeds and Plants he can procure to the Physic-garden at *Chelsea*, requires this public Acknowledgement.

The second Sort is a Native of *America*; but particularly in *Virginia* and *Carolina* there are great Plenty of these Trees growing in the Woods. The Seeds of this Sort are frequently brought to *England*, where the Trees are now become pretty common in the Nurseries about *London*. This rises to the Height of twelve or fourteen Feet; but generally divides into many irregular Trunks near the Ground; so that it is very rare to see an handsome Tree of this Sort. This produces plenty of Fruit in *England*; but they never come to Perfection here: in *America* the Inhabitants preserve the Fruit until it is rotten

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(as is practised by Medlers in *England*), when they are esteemed a pleasant Fruit.

These are both propagated by Seeds, which will come up very well in the open Ground; but if they are sown upon a moderate Hot-bed, the Plants will come up much sooner, and make a greater Progress; but in this Case the Seeds should be sown in Pots or Boxes of Earth, and plunged into the Hot-bed; because the Plants will not bear transplanting till the Autumn, that the Leaves fall off; so that when the Plants are up, and have made some Progress, they may be inured by degrees to the open Air; and in *June* they may be wholly exposed, and may remain abroad until *November*; when it will be proper to set the Pots under an Hot-bed-frame to protect them from hard Frost, which, while they are very young, may kill the Tops of the Plants; but they must have as much free Air as possible in mild Weather: next Autumn or Spring, before the Plants begin to shoot, they should be transplanted into a Nursery, in a warm Situation; where they may be trained up for two Years, and then removed to the Places where they are designed to remain. The second Sort is hardy enough to resist the greatest Cold of this Country; but I do not know how the first may be affected by severe Frost; tho' for two or three Years they have been exposed without Injury.

DIPSACUS, The Teasel.

The Characters are;

The whole Flower hath no proper Calyx, but Leaves representing the Perianthium encompassing the Bottom of the Head; the little Flowers, which are produced singly from between the Scales, are collected into an Head somewhat like a Bee-hive; these

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are succeeded by longish four-corner'd Seeds.

The Species are;

1. **DIPSACUS** *sylvestris, aut virga pastoris major*. C. B. The greater wild Teasel.

2. **DIPSACUS** *sylvestris, capitulo minore, vel virga pastoris minor*. C. B. Small wild Teasel, or Shepherd's Rod.

3. **DIPSACUS** *folio laciniato*. C. B. Cut-leav'd Teasel.

4. **DIPSACUS** *fativus*. C. B. Mannered Teasel.

The first of these Plants is very common upon dry Banks, in most Parts of *England*; and is seldom cultivated in Gardens, unless for the sake of Variety.

The second is also found wild in many Parts of *England*, tho' less common than the first.

The third is a Variety, which differs from the first, in having the Leaves deeply cut or jagged.

But it is the fourth Sort only which is cultivated for Use, which is called *Carduus Fullorum*, or *Ful-lonum*, being of singular Use in raising the Knap upon Woollen-cloth; for which Purpose there are great Quantities of this Plant cultivated in the West Country.

This Plant is propagated by sowing the Seed in *March*, upon a Soil that has been well plowed: about one Peck of this Seed will sow an Acre; for the Plants should have room to grow, otherwise the Heads will not be so large, nor in so great Quantity. When the Plants are come up, you must hoe them in the same manner as is practised for Turneps, cutting down all the Weeds, and singling out the Plants to about six or eight Inches Distance; and as the Plants advance, and the Weeds begin to grow again, you must hoe them

them a second time, cutting out the Plants to a wider Distance; for they should be, at last, left at least a Foot asunder: and you should be particularly careful to clear them from Weeds, especially the first Summer; for when the Plants have spread so as to cover the Surface of the Ground, the Weeds will not so readily grow between them. The second Year after sowing, the Plants will shoot up to Heads, which will be fit to cut about the Beginning of *August*; at which time they should be cut, and tied up in Bunches, setting them in the Sun, if the Weather be fair; but if not, they must be set in Rooms to dry them. The common Produce is about an hundred and sixty Bundles or Staves upon an Acre, which they sell for about one Shilling a Stave. Some People sow Caraway and other Seeds amongst their Teasels: but this is not a good Method; for the one spoils the other; nor can you so easily clear them from Weeds, as when alone.

DITTANY. *Vide* Dictamnus.

DOCK. *Vide* Lapathum.

DODARTIA [This Plant was so named by Dr. *Tournefort*, from Monsieur DODART, a Member of the Academy of Sciences at *Paris*]. We have no *English* Name for this Plant.

The Characters are;

It hath a personated tubulous Flower, consisting of one Leaf, having two distinct Lips; the upper Lip is bifid, and the under one is divided into three Parts; from whose Calyx arises the Pointal, fixed like a Nail in the hinder Part of the Flower, and afterward becomes a roundish Fruit, divided into two Cells, which are filled with small Seeds.

The Species are;

1. DODARTIA *Orientalis*, flore

purpurascens. *Tourn. Cor.* Eastern Dodartia, with a purplish Flower.

2. DODARTIA *bellidis folio*, flore albo spicato. Dodartia with a Daisy-leaf, and white Flowers growing in a Spike.

The first Sort was discovered by Dr. *Tournefort* near Mount *Ararat*, from whence he sent the Seeds to the Royal Garden at *Paris*; and they have since been communicated to many other Gardens. This is a perennial Plant, which commonly rises about eighteen Inches high, with slender Stems, which are branched out from the Bottom, and have a few small Leaves thinly placed on them: the Flowers come out on the Side of the Branches, which are shaped like those of the Snap-dragon, and are of a purple Colour. As this Plant flowers pretty late in the Summer, it rarely produces good Seeds in *England*; therefore the only Method of propagating it is, by Suckers from the Root, which should not be taken off until they are pretty strong; for the Root does not increase very fast here. It loves a gentle loamy Soil, and should have a warm Border, where it will thrive much better than when it is kept in Pots; but if it is not watered in dry Weather, the Flowers will be weak, and the Plants will not make much Increase.

The second Sort is a Native of the South of *France* and *Spain*; and has been described by several Botanists under the Title of *Linaria bellidis folio*. This Plant seldom continues longer than two Years; therefore the Seeds should be sown soon after they are ripe, in Pots filled with fresh Earth, and sheltered under an Hot-bed-frame in Winter, giving them as much free Air as possible. In the Spring the Plants

will come up, some of which may be planted in Pots, that they may be sheltered the following Winter; and others may be planted in warm Borders, where, in mild Winters, they will stand very well; but, in severe Winters, they will not live in the open Air. If the Seeds of this Plant are not sown in the Autumn, they rarely grow.

DODONÆA.

The Characters are;

The Empalement of the Flower is of one Leaf, which is cut into three oval Segments: there is no Petal to the Flower; but in the Centre of the Empalement is situated a three-cornered Pointal, attended by eight short Stamina: the Pointal afterward becomes an inflated Pod, having three Corners or Wings; and is divided into three Cells, each containing one or two round hard Seeds.

We know but one Species of this Plant at present, which has been long preserved in some curious Gardens of Plants; and described under the Title of *Triopteris*, by Dr. Plukenet; and afterward, by Father Plumier, under that of *Staphylodendron*, to which Genus he referr'd it from the Similitude of the Fruit; but as it differs from that in the Flower, Dr. *Linnaeus* has constituted the Genus by this Name, in Honour to *Rembertius Dodonæus*, a famous Botanist.

DODONÆA. *Lin. Hort. Cliff.*
Hop-tree, *vulgo*.

This Plant is a Native of the warm Parts of *America*, where it grows to the Height of eighteen or twenty Feet: the Branches generally grow erect, and are garnished with Leaves, in Shape somewhat like those of the Bay-tree, but narrower; and of a light-green Colour, full of Veins, and not so thick as

the Bay-leaf. The Inhabitants of the Islands have given it the Name of Hop-tree, from some Resemblance, as they suppose, the Bladders of this Tree have to the Hop. In several of the Gardens in *Europe*, where this Plant has been preserved, they have been shewn for the true Tea, to which it has no Affinity; but it serves to amuse Persons who have little Knowledge in Plants.

The Seeds of this Tree are frequently brought from *America*; and the Plants come up very freely, when the Seeds are sown upon a good Hot bed; and the Plants will make great Progress the first Year; but are very subject to decay the first Winter, especially if they are treated too tenderly: therefore they should be hardened by degrees in the Summer; and if they are placed in a moderate Stove in Winter, they will succeed better than in a greater Heat.

DOG's TOOTH. *Vide* *Dens Canis*.

DOG-WOOD. *Vide* *Cornus*.

DORIA. *Vide* *Solidago* & *Othonna*.

DORONICUM, Leopards-bane.

The Characters are;

It hath an intricate knotted Root: the Leaves are produced alternately on the Branches: the Stalks are a little branched: the Flowers (which grow on the Tops of the Stalks) are radiated like the greater Starwort: the Half-florets, in the Disk of the Flower, are trifid: the Cup of the Flower is expanded, and cut into many Parts almost to the Bottom, and is not scaly; but each single Segment is in the Form of a Disk.

The Species are;

1. *DORONICUM radice scorpii*.
C. B. Scorpion-rooted Leopards-bane.

2. *DORONICUM plantaginis folio.*
C. B. Plantain-leav'd Leopards-bane.

3. *DORONICUM plantaginis folio, alterum.* C. B. Another plantain-leav'd Leopards-bane.

4. *DORONICUM plantaginis folio, hirsutum.* Vaill. Rough plantain-leav'd Leopards-bane.

The first of these Plants is sometimes used in Medicine with us, as is the third Sort in Germany: these are all Plants of no great Beauty; but as they will thrive in almost any Soil or Situation, they may be allowed a Place in a shady Border, for Variety-sake. They all increase abundantly by their spreading Roots, which may be parted either in Spring or Autumn; as also by Seeds, which should be soon after they are ripe. They produce their Flowers for several Months in the Summer, as in May, June, July, and August; and their Seeds ripen soon after.

DORSTENIA [this Plant was so named by Father Plumier, from Dr. Dorsten, a German Physician, who published an History of Plants in Folio], Contrayerva.

The Characters are;

It hath a thick fleshy Placenta, which is flat, and situated vertically; upon which are placed many apetalous Flowers, which are succeeded by roundish Seeds, somewhat like those of Gromwel, but smaller.

The Species are;

1. *DORSTENIA dentariae radice, sphondylii folio, placenta ovali.* Houst. Contrayerva with a Toothwort-root, Cow-parfneep-leaf, and an oval Placenta.

2. *DORSTENIA dentariae radice, folio minus laciniato, placenta quadrangulati & undulata.* Houst. Contrayerva with a Toothwort-root, less jagged Leaf, and a quadrangular undulated Placenta.

3. *DORSTENIA sphondylii folio serrato, placenta quadrangulati, radice dentariae.* Contrayerva with a Toothwort-root, sawed Cow-parfneep-leaf, and a quadrangular Placenta.

The first of these Plants was discovered by my late ingenious Friend Dr. William Houstoun, near Old Vera Cruz in New Spain. The second was found, by the same Gentleman, on the rocky Grounds about Campechy. The third Sort was found in great Plenty in the Island of Tobago, by Mr. Robert Millar, Surgeon. But the Roots of all these Species are indifferently brought over, and used in Medicine, and for Dyeing.

These Plants are at present very rare in Europe, nor was it known what the Plant was, whose Roots were imported, and had been long used in Medicine in England, until the late Dr. Houstoun informed us: for altho' Father Plumier had discovered one Species of this Plant, and given the Name of *Dorstenia* to the Genus; yet he seems not to have known, that the Contrayerva was the Root of that Plant.

It will be difficult to obtain these Plants, because the Seeds are seldom to be found good; nor will they grow, if they are kept long out of the Ground; so that the only sure Method to obtain them is, to have the Roots taken up at the time when their Leaves begin to decay, and planted pretty close in Boxes of Earth, which may be brought very safe to England; provided they are preserved from Salt-water, and are not over-watered with fresh Water in their Passage: when the Plants arrive, they should be transplanted each into a separate Pot filled with fresh Earth, and plunged into the Bark-stove, which should be kept to a moderate Heat; and the Plants must

must be frequently refreshed with Water, during the Summer-season; but in Winter, when the Leaves are decayed, it should be given to them more sparingly: with this Management these Plants may not only be maintained, but may be also increased by parting their Roots in the Spring, before the Plants put out their Leaves.

DORYCNIUM, Shrub Trefoil.

The Characters are;

The Empalement of the Flower is of one Leaf, tubulous, and cut into five equal Segments: the Flower is papilionaceous, the Standard being vertically heart-shaped, the Wings being long, and the Keel short: after the Flower is past, the Pointal changes to a round-pointed Pod, opening both Ways, having one Cell, in which are lodged one or two Seeds.

The Species are;

1. DORYCNIUM foliis digitatis sessilibus. Lin. Hort. Cliff. Shrub Trefoil of Montpellier, with divided Leaves growing close to the Branches.

2. DORYCNIUM foliis simplicibus ovatis. Flor. Leyd. Montpellier Trefoil, with single oval Leaves.

The first Sort is a low Shrub, which rises to the Height of four or five Feet; and has many irregular Branches, which are very slender, and thinly garnished with small divided Leaves. The Flowers are white, small, and produced in small Clusters at the End of the Shoots, which have little Beauty; so is not much cultivated in England; being only preserved for Variety in those Gardens, where other Exotic Plants are kept.

This Shrub will endure the Cold of our ordinary Winters very well in the open Air, being never injured but by severe Frost: it should be planted on a dry Soil, and in a sheltered Situation, where it will flower,

and ripen Seeds every Year: it may be easily propagated by sowing the Seeds on a Bed of fresh light Earth in Spring; or if the Seeds are permitted to fall, the Plants will come up the following Spring; and may be transplanted into a Nursery, or where they are to remain the Autumn following.

The second sort is an annual Plant; the Seeds of this must be sown upon a moderate Hot-bed in the Spring; and when the Plants come up, they must be removed into a fresh Hot-bed, to bring the Plants forward, otherwise they will not perfect their Seeds in England. There is no great Beauty in this Plant; but it is preserved in Botanic Gardens for the sake of Variety.

DOUGLASSIA.

This Plant was so named by the late Dr. William Houstoun, in Honour to Dr. James Douglass, an eminent Physician at London.

The Characters are;

It hath an anomalous Flower, consisting of one Leaf, whose lower Part is tubulous, but the upper Part is expanded, and divided into five Segments: but the Tube is shut at the Top, out of which arise four long Stamina, two spreading on each Side the Coral; and two short ones, spreading on each Side between the longer: the Fruit, which is roundish, is divided into two Parts, which contain two Seeds.

There is but one Sort of this Plant at present known; viz.

DOUGLASSIA frutescens & spinosa, ligustri folio, flore albo. Houst. Paliuro affinis ligustrifolia spinosa, flore monopetalo difformi, fructu sicco subrotundo. Sloan. Cat. Jam. Shrubby prickly Douglassia, with a Privet-leaf, and a white Flower.

This Shrub grows in great Plenty in the Woods and Savannas in Jamaica and Barbados; where it rises to

to the Height of ten or twelve Feet, and spreads into many Branches; at the Extremity whereof, as also from the Wings of the Leaves, there are sent forth Clusters of white Flowers, which are succeeded by roundish Fruit.

It may be propagated by Seeds, which must be obtained from the Countries of its Growth; for it doth not produce Seeds in this Country. This Seed must be sown in Pots filled with rich light Earth, and then plunged into an Hot-bed of Tanners Bark, observing to water the Pots frequently, to keep the Earth moist, otherwise the Seeds will not vegetate; for they often remain in the Ground a whole Year, before the Plants will come up; so that when they do not come up the first Year, the Pots should remain in the Hot-bed all the Winter, and be plunged into a fresh Hot-bed in *March* following; and, if the Seeds were good, the Plants will appear in *April*, or the Beginning of *May*; soon after which they may be transplanted: when they should be carefully shaken out of the Pots, and separated, being cautious, in parting their Fibres, not to tear them; then plant each into a separate small Pot filled with rich light Earth, and plunged into the Hot-bed again, being careful to shade the Plants until they have taken Root; after which time they must be duly watered; and the Glasses of the Hot-bed must be raised every Day, in proportion to the Warmth of the Season, to admit fresh Air to the Plants, that they may increase in Strength, in proportion to their growing in Height. These Plants may remain in the Hot-bed until *Michaelmas* (provided there is room for them to stand without touching of the Glasses); then the Plants should be removed into

the Stove, and plunged into the Bark-bed, for the Winter-season. In the Winter these Plants must be frequently watered; but there should not be too much given to them at each time; but in Summer they will require to be more plentifully watered. These Plants, being Natives of warm Countries, will not thrive without artificial Heat in this Country; so they must be placed in a Stove in Winter; but they may be placed abroad in Summer, when the Weather is warm. With this Management the Plants will make good Progress; and in two or three Years will begin to produce their Flowers, and will continue several Years to flower; but they never produce ripe Seeds in this Country, but it may be propagated by Cuttings. This Plant continues green throughout the Year; so will afford an agreeable Variety in the Stove, among other tender Exotic Plants of the same Country.

DRACO HERBA, Tarragon, *vulgo. Vide Abrotanum.*

DRACO ARBOR. *Vide Palma.*

DRACOCEPHALON, Dragon's Head.

The Characters are;

It hath a labiated Flower consisting of one Leaf, whose upper Lip, which is crested, and its under Lip, which is divided into three Segments, end in Chaps or Jaws, and have the Representation of a Dragon's Head; out of the Flower-cup rises the Pointal, fixed like a Nail in the hinder Part of the Flower; and is accompanied by four Embryoes, which become so many Seeds, shut up in the Flower-cup.

The Species are;

1. DRACOCEPHALON *foliis simplicibus, floribus spicatis. Lin. Hort. Cliff. American Dragon's Head, with single Leaves, and spiked Flowers.*

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2. *DRACOCEPHALON floribus spicatis, foliis compositis.* Lin. Hort. Cliff. Dragon's Head with spiked Flowers, and compound Leaves, commonly called *Balm of Gilead*.

3. *DRACOCEPHALON floribus verticillatis, foliis ovato-lanceolatis.* Lin. Hort. Cliff. Dragon's Head with Flowers growing in Whorles, and oval spear-shaped Leaves, commonly called *Moldavian Balm*.

4. *DRACOCEPHALON floribus verticillatis, foliis floralibus orbiculatis.* Lin. Hort. Cliff. Dragon's Head with Flowers growing in Whorles, and the upper Leaves round, commonly called Willow-leav'd Eastern *Moldavian Balm*.

5. *DRACOCEPHALON floribus verticillatis, bracteis oblongis, serraturis spinosis, foliis tomentosis.* Hort. Upsal. Dragon's Head with Flowers growing in Whorles, and the little Leaves under the Flowers sawed, ending in Spines, and woolly Leaves, commonly called Eastern *Moldavian Balm*.

6. *DRACOCEPHALON floribus verticillatis, bracteis oblongis ovatis integerrimis, corollis calyce multoties majoribus.* Hort. Upsal. Dragon's Head with Flowers growing in Whorles, the small Leaves under the Flowers oblong and intire, and the Flowers much larger than the Empalement.

7. *DRACOCEPHALON floribus verticillatis, bracteis oblongis integerrimis, corollis vix calycem æquantibus.* Hort. Upsal. Dragon's Head with Flowers growing in Whorles, the small Leaves oblong and intire, and the Flowers equal with the Empalement.

The first Sort is a Native of *North America*, where it grows in the Woods, and by the Sides of Rivers. This Sort grows about two Feet and an half high, producing its Flowers

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in Spikes, on the Tops of the Stalks, which are of a purple Colour. This is a perennial Plant, which will live in the open Air; but requires a moist Soil, or should be duly watered in dry Weather; otherwise the Leaves will shrink, and the Flowers will make no Appearance. As this is an hardy Plant, it may be allowed a Place in the Garden, since it will not ramble, or take up much room: it flowers in *July*, and continues until the Middle or End of *August*; and may be propagated by parting of the Roots in Autumn.

The second Sort is a Native of the *Canary Islands*, and hath been long an Inhabitant in the Gardens: it is usually called by the Gardeners *Balm of Gilead*, from the strong refinous Scent which the Leaves emit on being rubbed. This is a perennial Plant, and usually kept in Green-houses; but, in mild Winters, the Plants will live abroad, if they are planted in warm Borders; and those Plants which are kept in Pots, will thrive much better, when they are sheltered under a Frame, than if placed in a Green-house, where the Plants are apt to draw up weak; for they should have as much free Air as possible, in mild Weather; and only require to be sheltered from severe Frost. This may be propagated by Seeds or Cuttings; which, if planted in a shady Border, any time in Summer, will immediately take Root, and furnish plenty of rooted Plants.

The third Sort is a Native of *Moldavia*: this has been long preserved in curious Gardens. It is an annual Plant, whose Seeds should be sown in small Patches, in the Spring, upon the Borders, where they are to remain. Of this there is a Variety with white Flowers, which is pretty common in the Gardens.

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These Plants have a strong Scent on being rubbed.

The fourth and fifth Sorts were discovered by Dr. Tournefort in the *Archipelago*, who sent their Seeds to the Royal Garden at *Paris*, which have since been communicated to many curious Gardens in *Europe*. The fourth Sort has very small Flowers, which make no great Appearance; therefore is seldom cultivated: but the fifth Sort deserves a Place, for the handsome Appearance which the Flowers make during their Continuance, which is near two Months.

The sixth and seventh Sorts are Natives of *Tartary*, and have been lately introduced into the *English* Gardens. These are both annual Plants, which may be cultivated by sowing of their Seeds in the same manner as is directed for the former Sorts. The sixth Sort is worthy of a Place in good Gardens; but the seventh is a Plant of no great Beauty.

DRACUNCULUS, Dragon.

The Characters are;

The Leaves are like those of *Arum*, but are divided into many Parts: the Stalk is spotted; but in other respects it agrees with the *Arum*.

The Species are;

1. DRACUNCULUS *polyphyllus*. C. B. Many-leav'd Dragon.
2. DRACUNCULUS *polyphyllus*, *foliis ex luteo variegatis*. H. R. Par. The yellow strip'd-leav'd Dragon.
3. DRACUNCULUS *polyphyllus*, *foliis ex albo variegatis*. The white strip'd-leav'd Dragon.
4. DRACUNCULUS *Canadensis triphyllus pumilus*. Tourn. Dwarf Canady Dragon, with three Leaves.
5. DRACUNCULUS *Indicus, folio trifido*. Tourn. Indian Dragon, with a trifid Leaf.

6. DRACUNCULUS *Indicus, folio quinquifido*. Tourn. Indian Dragon, with a quinquifid Leaf.

7. DRACUNCULUS *Americanus, colocasiae foliis laciniatis*. Tourn. American Dragon, with a jagged *Colocasia*-leaf.

8. DRACUNCULUS *Americanus scandens, triphyllus & auritus*. Tourn. Climbing American Dragon, with three Leaves, which have Ears to them.

9. DRACUNCULUS *polyphyllus major Indicus serotinus, immaculato caule*. Tourn. Greater many-leav'd late Indian Dragon, with an unspotted Stalk.

10. DRACUNCULUS *Zeylanicus polyphyllus, caule aspero ex flavo & viridi variegato*. Tourn. Many-leav'd Dragon of *Ceylon*, with a rough Stalk variegated with yellow and green.

11. DRACUNCULUS *Zeylanicus spinosus, polypodii foliis, radice repente*. Tourn. Prickly Dragon of *Ceylon*, with *Polypody*-leaves, and a creeping Root.

12. DRACUNCULUS *Americanus, caule aspero puniceo, radice cyclaminis*. Tourn. American Dragon, with a rough scarlet Stalk, and a Root like that of *Sowbread*.

13. DRACUNCULUS *Americanus scandens*. Tourn. Climbing American Dragon.

14. DRACUNCULUS *Zeylanicus polyphyllus, caule aspero virescente, maculis albicantibus notato*. Tourn. Many-leav'd Dragon of *Ceylon*, with a rough green Stalk mark'd with whitish Spots.

15. DRACUNCULUS *Americanus scandens, foliis amplis perforatis*. Climbing American Dragon, with ample Leaves, which are perforated.

The first of these Sorts is cultivated in Gardens for medicinal Uses; the

the two next are Varieties of the first, which are preserved in curious Gardens of Plants. These, tho' they are Plants of no great Beauty, yet, for the surprising Oddness of their Flowers, together with their spotted Stalks, deserve a Place in some remote Corner of the Garden.

They are propagated by their knobby Roots, which, if suffered to remain two or three Years undisturbed, will afford many Off-sets. The best Season for transplanting these Roots is in Autumn, soon after the green Leaves decay; for if they are removed after they have taken fresh Root, and begun to shoot, they seldom produce Flowers the succeeding Summer; or if they do, they are very weak: these will thrive almost in any Soil and Situation; but best in an open Exposure, and a light Soil.

The fourth and fifth Sorts are Natives of *Virginia*, and some of the Northern Parts of *America*; so are hardy enough to bear the Cold of *England* in the open Air; but these delight in moist Soils, and a shady Situation.

All the other Sorts of Dragon are very tender Plants; so will not live in this Country, unless they are preserved in the warmest Stoves: the several *American* Sorts grow naturally in the Woods in *Jamaica*, and other hot Parts of *America*: the climbing Sorts twist themselves round the Trunks of Trees, into which they fasten their Roots, which are sent forth from their Joints; and rise to the Height of thirty or forty Feet. These climbing Sorts are easily propagated by Cuttings, which, being very succulent, may be brought over to *England* in a Box of dry Hay, if they are packed up separate, so as not to injure each other by the Moisture, which is apt to flow out

at the Part where they are cut off; which may occasion a Fermentation, and thereby rot the Cuttings. When the Cuttings arrive, they should be planted in small Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark; being very careful not to let them have too much Moisture until they have taken Root, lest it rot them: when they have taken Root, they must be frequently refreshed with Water; and when they are grown pretty large, they should be placed in the Bark-bed in the Stove, where they must be placed near some strong Plants, to which they may fasten themselves, otherwise they will not thrive; for tho' they will send forth Roots at their Joints, which will fasten to the Morter of the Stove, when placed against the Wall; yet they will not thrive near so well as against a strong Plant, which will afford them Nourishment.

The other Sorts are propagated by Off-sets from their Roots; these may be procured from the Countries of their Growth, and should be planted in Tubs of Earth, about a Month before they are put on board the Ship to transport them. These Tubs should be placed in a shady Situation, until they have taken Root; but they should not have much Water given to them, lest it rot them. In their Passage great Care should be had to keep them from Salt-water, as also not to let them have too much Water given them; for if they have a little Water once or twice a Week, at most, while they are in an hot Climate, and, when they come into a cooler Climate, once in a Fortnight, this will be sufficient for them; and it should be done sparingly, lest it rot them: for if the Tops of the Plants should decay for want of Water in their Passage,

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Passage, if the Roots are not rotted, they will soon recover with proper Care.

When the Plants arrive, they should be transplanted into Pots filled with fresh light Earth, and plunged into an Hot-bed of Tanners Bark, and gently watered, until they have taken good Root; after which time they will require to be frequently refreshed with Water; but as their Stems are very succulent, they must not have too much Moisture. These Plants should be constantly kept in the Stove, where in hot Weather they should have fresh Air admitted to them; but in Winter they must be kept very warm, otherwise they cannot be preserved in this Country.

These Plants will rise to the Height of three, four, or five Feet; and will afford a very agreeable Variety amongst other tender Exotic Plants in the Stove.

The climbing Sort, with perforated Leaves, is now pretty common in the curious Gardens in England: the Cuttings of this Sort were sent from the *West-Indies* by Mr. Robert Millar, Surgeon.

DRACUNCULUS PRATENSIS *Vide* Ptarmica.

DRAGON. *Vide* Dracunculus.

DROSION. *Vide* Ros Solis.

DULCAMARA. *Vide* Solanum.

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E BULUS. *Vide* Sambucus humilis.

ECHINOMELOCACTUS. *Vide* Cactus.

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ECHINOPHORA, Prickly-headed Parsnep.

The Characters are;

The Cup of the Flower consists of one Leaf, which is divided into five Parts, and expands in form of a Star, in which is included the Footstalk of the Umbel: the Fruit consists of one prickly Vessel, in which is contained one long Seed.

We have but one Species of this Plant; which is,

ECHINOPHORA *pastinacæ folio.*
C. B. Echinophora with a Parsnep-leaf.

There is no great Use or Beauty in this Plant; but it is preserved in curious Botanic Gardens, for Variety-sake. It may be propagated by sowing the Seeds soon after they are ripe, or very early in the Spring; and when the Plants are come up, they should be singled out, so as to remain about eight or ten Inches asunder. The second Year after sowing they will produce ripe Seeds.

ECHINOPUS, Globe-thistle, *vulgo.*

The Characters are;

It hath the whole Appearance of a Thistle: the Leaves are produced alternately: the Florets consist of one Leaf, which is divided into five Segments, and is hollow; and each single Floret has a scaly Cup: the Florets are collected into a spherical Head, which has one common Cup or Covering.

The Species are;

1. **ECHINOPUS major.** *J. B.* Greater Globe-thistle.

2. **ECHINOPUS major humilior,** *floribus albidis.* *Flor. Bat.* Greater Dwarf Globe-thistle, with whitish Flowers.

3. **ECHINOPUS minor annuus,** *capite magno.* *Tourn.* Lesser annual Globe-thistle, with a large Head.

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The first of these Plants hath been an old Inhabitant of the *English* Gardens; where it hath had a Place more for Variety, than any particular Beauty.

The second Sort is a Variety which hath been obtained from Seeds of the former. These Plants may be propagated by sowing their Seeds in the Spring, in a light Soil: and when the Plants are strong enough to remove, they may be transplanted into the Middle of large Borders, or in any abject Part of the Garden; for they are too large to stand among nicer Plants, which would be greatly injured by their large Leaves. The second Year after sowing they will produce Flowers; and if the Autumn is not too cold or wet, will perfect Seeds: but the Roots of these abide three or four Years, and produce Flowers and Seeds annually.

The third Sort is an annual Plant, and requires to be sown early; as also to have an open warm Situation; otherwise it will not produce good Seeds in this Country. This Plant is of small Growth; so may be allowed to have a Place in a warm Border, amongst other curious Plants.

ECHIUM, Viper's Bugloss.

The Characters are;

The Cup of the Flower is large, and divided into five long slender segments: the Flower consists of one Leaf, is shaped like a Funnel, and somewhat inflected, having its Upper-part stretch'd out to a greater Length than the lower: the Upper-part or Galea of the Flower is divided into two, and the Lower-part or Beard into three Parts: in the Middle of the Flower are produced five Stamina, or Threads, which are reflexed: each Flower is succeeded by four Seeds, which are in form of a Viper's Head.

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The Species are;

1. **ECHIU**M *vulgare*. C. B. Common Viper's Bugloss.
2. **ECHIU**M *majus* & *asperius*, *flore albo*. C. B. Great rough Viper's Bugloss, with a white Flower.
3. **ECHIU**M *majus* & *asperius*, *flore dilute purpureo*. Bot. Monf. Great rough Viper's Bugloss, with a Flower of a pale-purple Colour.
4. **ECHIU**M *amplissimo folio*, *Lusitanicum*. Tourn. Portugal Viper's Bugloss, with a large Leaf.
5. **ECHIU**M *Creticum latifolium rubrum*. C. B. Broad-leav'd Candia Viper's Bugloss, with a red Flower.
6. **ECHIU**M *Creticum angustifolium rubrum*. C. B. Narrow-leav'd Candia Viper's Bugloss, with a red Flower.
7. **ECHIU**M *foliis angustis* & *villosis*. Tourn. Viper's Bugloss, with narrow hairy Leaves.

There are several other Varieties of this Plant, which are preserved in curious Botanic Gardens; but these here-mentioned are the chief Sorts which I have observed in *England*. The first Sort is found wild upon dry chalky Hills, and gravelly Soils, in divers Parts of *England*, and is sometimes used in Medicine: but there are none of the Varieties which are cultivated for their Beauty; though I think the first, fifth, and sixth Sorts deserve a Place in some dry abject Part of the Garden, where little else will grow, for the sake of Variety, and the long Continuance of their Flowers. They are all of them biennial Plants, except the fifth and sixth Sorts, which are annual; and these are the most beautiful of all the Kinds: the Seeds of these must be sown every Year. The Seeds of the other Sorts, being sown in the Spring, will the second Summer after produce Flowers and Seeds, after which they seldom continue.

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They all delight in a rubbishy gravelly Soil, and will grow upon the Tops of old Walls or Buildings; where, when once they have established themselves, they will drop their Seeds, and thereby maintain a Succession of Plants without any Care; and on these Places they appear very beautiful.

EDERA QUINQUEFOLIA.

Vide Vitis.

EDGINGS. The best and most durable Plant for Edgings in a Garden is Box; which, if well planted, and rightly managed, will continue in Beauty for several Years: the best Season for planting this is either in Autumn, or very early in the Spring: for if you plant it late, and the Season should prove hot and dry, it will be very subject to miscarry, unless great Care is taken to supply it with Water. The best Sort for this Purpose is the Dwarf Dutch Box.

These Edgings are only planted upon the Sides of Borders next Walks, and not, as the Fashion was some Years ago, to plant the Edgings of Flower-beds, or the Edges of Fruit-borders, in the Middle of Gardens, unless they have a Gravel walk between them; which renders it proper to preserve the Walks clean, by keeping the Earth of the Borders from washing down in hard Rains.

It was also the Practice formerly, to plant Edgings of divers Sorts of aromatic Herbs, as Thyme, Savory, Hyssop, Lavender, Rue, &c. But these being subject to grow woody, so that they can't be kept in due Compass, and in hard Winters being often killed in Patches, whereby the Edgings are rendered incomplete, they are now seldom used for this Purpose.

Some People make Edgings of Daïsies, Thrift, Catchfly, and other

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flowering Plants; but these also require to be transplanted every Year, in order to have them handsome; for they soon grow out of Form, and are subject also to decay in Patches; so that there is not any Plant which so completely answers the Design as Dwarf Box, which must be preferred to all others.

ELATERIUM, The wild Cucumber.

The Characters are;

The Branches are somewhat like those of the Cucumber; but have no Tendrils: the Fruit is prickly, and, when ripe, bursts with great Elasticity, and abounds with fetid Juice.

We have but one Species of this Plant; which is,

ELATERIUM officinarum. Boerb. Ind. This is the *Cucumis sylvestris*, *Afininus dictus*, of Caspar Bauhin. Wild Cucumber.

This Plant is cultivated in some Gardens for medicinal Use; but is chiefly preserved in curious Gardens for its Variety, as also for Diversion; for when the Fruit is ripe, if you offer to gather it, it bursts, and casts out its Juice and Seeds with great Elasticity; for which it is call'd by some *Noli me tangere*, or *Touch me not*: which Appellation may be given to many other Plants on this Account.

It may be propagated by sowing the Seeds in the Spring of the Year in an open warm Border; and, when the Plants are come up, they may be transplanted into open Beds or Borders, about six or eight Feet Distance from each other; for the Vines will spread very far, especially if the Ground is good, in which they are planted: these produce their Fruit in Autumn, which if you suffer it to fall off, and emit their Seeds, will afford a plentiful Supply of Plants without any farther

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ther Care. The Roots of these Plants will abide some Years.

ELATINE. *Vide* Linaria.

ELÆAGNUS, Oleaster, or wild Olive.

The Characters are;

It hath a tubulous Flower, consisting of one Leaf, which is cut into four Segments; whose Calyx afterward becomes a Fruit shaped like an Olive, inclosing a Stone of the same Form.

The Species are;

1. ELÆAGNUS *Orientalis latifolius, fructu maximo.* Tourn. Cor. Eastern broad-leav'd wild Olive, with a large Fruit.

2. ELÆAGNUS *Orientalis angustifolius, fructu parvo olivæformi subdulci.* Tourn. Cor. Eastern wild Olive, with narrow Leaves, and a small sweet olive-shaped Fruit.

3. ELÆAGNUS *Orientalis angustifolius, fructu minimo rotundiori & subacido.* Tourn. Cor. Eastern narrow-leav'd wild Olive, with a small roundish and acid Fruit.

4. ELÆAGNUS *non spinosa, foliis angustis & longissimis, fructu parvo olivæformi.* Wild Olive without Spines, narrow long Leaves, and a small olive-shaped Fruit.

The first and third Sorts Dr. Tournefort observed growing in several Islands in the Archipelago. The second Sort is found in great Plenty upon the Hills in Spain, Italy, and some Parts of Germany. The fourth Sort is the most common in the English Gardens, and hath been by most Botanic Authors mentioned for the second Sort; though, by comparing them together, they appear very different; for the Leaves of the second are much shorter than those of the fourth, and the Branches are beset with sharp Thorns between the Leaves; whereas the fourth Sort hath no Spines on it: but where

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this is a Native, I cannot determine, tho' probably it was found with the second Sort, in some of the Southern Parts of Europe.

These Plants may be propagated by laying down the young Shoots in Autumn, which will take Root in one Year, when they may be cut off from the old Trees, and either transplanted into a Nursery for two or three Years, to be trained up, or into the Places where they are to remain. The best Season for transplanting these Trees is the Latter-end of February, or the Beginning of March; though they may be removed at Michaelmas, provided the Roots are mulched, to protect them from severe Frost in Winter. These Plants should be placed where they may be screened from strong Winds; for they grow very freely, and are subject to be split down by the Wind, if they are too much exposed.

These Trees commonly grow to eighteen or twenty Feet high; and when they are intermixed with other Trees of the same Growth, make a pretty Diversity; for their Leaves, being of a silver Colour, are easily distinguished at a Distance. In June these Trees produce great Quantities of small yellowish Flowers, of a very strong Scent; and sometimes they bear Fruit in England.

ELEPHANTOPUS, Elephant's-foot.

The Characters are;

It hath a discous Flower, composed of several Florets, which are Hermaphrodite, contained in one Flower-cup, which is cut into several Segments almost to the Bottom: the Bottom of the Calyx is flat, and filled with Ovaries, which are beset on the Top with Hairs: the Disks are joined upon a common Placenta, and form a sort of Sheaf garnished with a Foliage.

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The Species are ;

1. ELEPHANTOPUS *conyzæ folio*.
Vaill. Mem. Acad. Scien. 1719. Elephant's-foot with a Flea-bane-leaf.

2. ELEPHANTOPUS *folio sinuato*.
Vaill. Mem. Acad. Scien. 1719. Elephant's-foot with a sinuated Leaf.

3. ELEPHANTOPUS *helenii folio*,
flore purpurascente. Elephant's-foot with an Elecampane-leaf, and purplish Flowers.

The first Sort grows in great Plenty in *South-Carolina*, where it is a very common Weed ; for from the Earth in which some Plants were brought over from thence, I have frequently had this Plant come up as a Weed. The Seeds of this Sort may be sown in an open Border in the Spring, and the Plants will live abroad in mild Winters ; therefore only require to be sheltered from severe Frost. This is a biennial Plant, which perishes soon after the Seeds are ripe. The second and third Sorts are very common in *Jamaica*, and in several Parts of the *Spanish West-Indies* ; from whence I have received Seeds and Specimens, which were collected by my late ingenious Friend Dr. *William Houstoun*.

These Plants are propagated by Seeds, which should be sown on an Hot bed in the Spring ; and when the Plants are come up, they must be transplanted into Pots filled with fresh light Earth, and plunged into an Hot bed of Tanners Bark ; observing to water and shade them until they have taken Root : then you should let them have a large Share of fresh Air in warm Weather, and give them plenty of Water. With this Management the first and second Sorts will flower in *August* ; and, if the Autumn proves favourable, will ripen their Seeds in *October* : but the Plants should be placed in a Stove after the Seeds are per-

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fectured, if you design to preserve them thro' the Winter.

The third Sort is hardier than either of the former, and may be preserved through the Winter in a Green-house without any additional Heat : this Plant dies to the Root every Autumn, and rises again the following Spring ; but it seldom flowers, unless the Season be very warm, or the Plants are forwarded by an Hot-bed in the Spring. This Plant hath been long known in the *European Gardens*, under the Title of *Scabiosa Indica Bontii*.

ELEPHAS, Elephant's-head.

The Characters are ;

It hath an anomalous personated Flower, consisting of one Leaf, which hath two distant Lips : the upper one resembles an Elephant's Trunk, but the under one is divided into several Parts ; from whose Cup arises the Pointal, fixed like a Nail in the Hinder-part of the Flower, which afterward becomes a Fruit divided into two Cells, which contain many oblong Seeds.

The Species are ;

1. ELEPHAS *Italica, flore magno, proboscide surrecta*. Tourn. Italian Elephas, with a large Flower, whose Upper-lip or Trunk is erect.

2. ELEPHAS *Orientalis, flore parvo, proboscide surrecta*. Tourn. Eastern Elephas, with a small Flower, whose Upper-lip or Trunk is erect.

3. ELEPHAS *Orientalis, flore magno, proboscide incurva*. Tourn. Eastern Elephas, with a large Flower, whose Upper-lip or Trunk is bent downward.

The first Sort grows naturally in some Parts of *Italy*, from whence the Seeds have been procured by some curious Persons : but this Plant is very rare in *England* at present. The other two Sorts were discovered by Dr. *Tournefort*, in the *Levant*,

who sent the Seeds to the Royal Garden at *Paris*; where the Plants were raised, and have since been distributed to several curious Persons in *Europe*.

These Plants may be propagated by Seeds, which should be sown on a Bed of fresh light Earth the Beginning of *March*. When the Plants begin to appear, they should be kept clear from Weeds; and in dry Weather they must be frequently watered, which will greatly promote their Growth. When the Plants are about two Inches high, they should be carefully taken out of the Bed, and transplanted, some of them into small Pots filled with fresh light Earth, and the others into a Bed of fresh Earth in a warm Situation. When those Plants, which were planted in Pots, have grown so much as to fill the Pots with their Roots, they must be shaken out of them, and their Roots parted, and then put into Pots a little larger than the former; which must be filled with fresh Earth, and then placed in an open Situation. In this Place they may remain until the Beginning of *November*, when they should be removed, and placed under an Hot-bed-frame, where they may be sheltered from severe Frost in Winter: but in mild Weather they should have as much free Air as possible; so that the Glasses of the Hot-bed must be taken off every Day when the Weather is good. In the Spring some of these Plants may be shaken out of the Pots, and planted in a warm Border; where they will thrive, and produce their Flowers, and sometimes will perfect their Seeds in this Country.

Those Plants which are planted in a Bed of good Earth, will require no other Culture but to keep them clear from Weeds; but if the Win-

ter should prove very severe, it will be proper to cover them with Mats or Peas-haulm, to protect them from the Frost; and in the Spring the Plants may be taken up, and transplanted into the Borders of the Pleasure-garden, where they are designed to remain. As these Plants are in Danger of being destroyed in very cold Winters, it will be proper to keep two or three Plants of each Kind in Pots; which may be sheltered from severe Frost, in order to preserve the Species.

ELICHRYSUM, Eternal-flower.

The Characters are;

The Disk of the Flower contains many Hermaphrodite Florets: in the Centre of each of these arises the Ovary, which is crown'd with Hairs, and is supported by a naked Placenta: these are all contained in a scaly Cup, which consists of dry Membranes, and is, for the most part, of a splendid Colour.

The Species are;

1. ELICHRYSUM, seu *stæchas citrina angustifolia*. C. B. Goldyllocks, or Cassidony.

2. ELICHRYSUM *montanum, flore rotundiori candido*. Tourn. Cat's-foot, or Mountain Cassidony, with a white round Flower.

3. ELICHRYSUM *montanum, flore rotundiori variegato*. Tourn. Cat's-foot, or Mountain Cassidony, with a round variegated Flower.

4. ELICHRYSUM *Americanum latifolium*. Tourn. Broad-leav'd American Eternal-flower.

5. ELICHRYSUM *sylvestre latifolium, flore parvo singulari*. Tourn. Broad-leav'd wild Eternal-flower, with a small single Flower.

6. ELICHRYSUM *sylvestre latifolium, flore magno singulari*. Tourn. Broad-leav'd wild Eternal-flower, with a single large Flower.

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7. *ELICHRYSUM sylvestre latifolium, capitulis conglobatis.* C. B. Broad-leav'd wild Eternal-flower, with many Heads closely united.

8. *ELICHRYSUM flore suave-rubente.* Hort. Cath. Eternal-flower with a soft red-colour'd Flower.

9. *ELICHRYSUM Africanum foetidissimum, amplissimo folio, calyce argenteo.* Tourn. Stinking African Eternal-flower, with a broad Leaf, and a silver-colour'd Cup.

10. *ELICHRYSUM Africanum foetidissimum, amplissimo folio, calyce aureo.* Tourn. Stinking African Eternal flower, with a broad Leaf, and a gold-colour'd Cup.

11. *ELICHRYSUM Orientale.* C. B. Eastern Eternal-flower.

12. *ELICHRYSUM Africanum, folio oblongo, subtus incano, supra viridi, flore luteo.* Boerb. Ind. African Eternal-flower, with a longish Leaf, hoary underneath, but green on the Upper-part, and a yellow Flower.

13. *ELICHRYSUM Africanum frutescens, foliis crithmi marini.* Hort. Amst. Shrubby African Eternal-flower, with Leaves like the Samphire.

14. *ELICHRYSUM Africanum frutescens, foliis sacchados citrinae, flore aureo.* Boerb. Ind. Shrubby African Eternal-flower, with Leaves like the golden Cassidony.

15. *ELICHRYSUM Africanum lanuginosum latifolium, calyce floris argenteo & amplissimo.* Olden. Woolly African broad-leav'd Eternal flower, with an ample silver-colour'd Cup.

16. *ELICHRYSUM Africanum tomentosum frutescens, calyce argenteo.* Com. Pl. Rar. African shrubby Eternal-flower, with woolly Leaves, and a silver-colour'd Flower-cup.

17. *ELICHRYSUM Africanum frutescens, angustis & longioribus foliis incanis.* Hort. Amst. Shrubby Afri-

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can Eternal-flower, with long narrow hoary Leaves.

18. *ELICHRYSUM angustissimo folio.* Tourn. The most narrow-leav'd Golden Cassidony.

19. *ELICHRYSUM umbellatum maritimum Hispanicum.* Tourn. Spanish maritime umbellated Golden Cassidony.

20. *ELICHRYSUM seu sacchas citrina latifolia.* C. B. P. Broad-leav'd Golden Cassidony.

21. *ELICHRYSUM Germanicum, calyce ex aureo rutilante.* Tourn. German Goldyllocks, with a reddish-golden Empalement.

22. *ELICHRYSUM Germanicum, calyce sanguineo.* Tourn. German Goldyllocks, with a blood-colour'd Empalement.

23. *ELICHRYSUM angustifolium incanum, maximo flore.* Tourn. Hoary narrow-leav'd Golden Cassidony, with a large Flower.

24. *ELICHRYSUM lavendulae folio breviori, floribus conglobatis minime luteis.* D. Sherard. Rati Sup. Golden Cassidony, with a shorter Lavender-leaf, and conglobated Flowers, which are very little yellow.

25. *ELICHRYSUM latifolium Hispanicum, corymborum squamulis & floribus amplis sulphureis.* Pluk. Almag. Broad-leav'd Spanish Golden Cassidony, with large yellow Flowers.

26. *ELICHRYSUM latifolium villosum, alato caule, odoratissimum.* Pluk. Phyt. The most sweet-smelling hairy broad-leav'd Golden Cassidony, with a winged Stalk.

27. *ELICHRYSUM Orientale, foliis amplioribus subrotundis.* Tourn. Eastern Golden Cassidony, with larger roundish Leaves.

28. *ELICHRYSUM Orientali simile, calyce florum argenteo.* Tourn. Golden Cassidony resembling the Eastern one, with a silver Empalement.

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29. *ELICHRYSUM Orientale vernum angustifolium*. Tourn. Narrow-leav'd Eastern Spring Golden Cassidony.

30. *ELICHRYSUM Orientale, leucii folio viridi*. Tourn. Eastern Golden Cassidony, with a green July-flower-leaf.

31. *ELICHRYSUM Orientale glutinosum, lavendulae folio*. Tourn. Glutinous Eastern Golden Cassidony, with a Lavender-leaf.

32. *ELICHRYSUM Africanum, folio oblongo angusto, flore rubello, postea aureo*. Boerb. African Golden Cassidony, with a narrow oblong Leaf, and a red Flower turning to a yellow.

33. *ELICHRYSUM Africanum lanuginosum latifolium, calyce floris argenteo & amplissimo*. Oldenl. Broad-leav'd woolly African Golden Cassidony, with a very large silver Empalement.

34. *ELICHRYSUM Africanum lanuginosum, angustissimo folio, calyce floris argenteo & amplissimo*. Oldenl. Woolly African Golden Cassidony, with a very narrow Leaf, and a large silver Empalement.

35. *ELICHRYSUM Africanum frutescens, coridis folio*. Oldenl. Shrubby African Goldylocks, with a Coris-leaf.

36. *ELICHRYSUM Africanum incanum tomentosum, foliis subrotundis*. Oldenl. Woolly hoary African Goldylocks, with roundish Leaves.

37. *ELICHRYSUM Africanum umbellatum odoratum luteum*. Oldenl. Yellow sweet-smelling umbellated African Goldylocks.

The first of these Sorts hath no great Beauty; but as the Flowers are of long Duration, it is preserved in some curious Gardens. This seldom produces good Seeds in England; but is very easily propagated by planting Slips or Cuttings in a

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shady Border, any time from April to August; which, if carefully supplied with Water, will push out Roots in two Months time, and may then be removed to the Place where it is to remain for good.

This delights in a dry warm Soil, that is not too rich; for if the Soil be wet, or over-dung'd, it will cause this Plant to make stronger Shoots in Summer; but then it will be liable to be destroyed with a little cold Weather in Winter. This Plant may be trained up to a regular Head, if proper Care be taken of it while young, and will grow to the Height of three or four Feet.

The second and third Sorts are Inhabitants of the Northern Mountains in Yorkshire, Cumberland, &c. These Plants grow very close to the Ground, and increase very fast from the Off-sets, which are produced in great Plenty on every Side the Plants, which emit Roots from their Joints as they trail upon the Ground; so that in a short time they will overspread the Ground where they are planted.

These Plants produce small Bunches of soft dry Flowers, which, if gathered when they are in Beauty, and preserved in a dry Place, will continue fresh and fair for some Years; for which Reason they deserve a Place in every good Garden, to increase the Varieties of these Flowers, which will afford Pleasure at a Season when the Ground is so lock'd up, that none of the flowery Tribe appears abroad above-ground. These Plants will grow in a shady dry Place in any remote Part of a Garden, and are by some planted for Edgings to North Borders.

The fourth Sort is a great Rambler in a Garden, and should therefore be either confined to Pots, or planted in some abject Part of the Garden,

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Garden, in a Place by itself; for if it stand near any other Plants or Flowers, it will be apt to over-run and destroy them; for the Roots creep far under-ground, and will arise at a great Distance from the old Plant: but however, as the Flowers are very beautiful amongst others of the perpetual Kind, they should not be wanting in a good Garden. This, though stiled an *American* Plant, yet is thought to be a Native of some of the warm *European* Countries. It delights in a dry warm Soil, and increases plentifully by the Off-sets.

The fifth and sixth Sorts are Plants of no great Beauty. They are preserved in Botanic Gardens for Variety-sake; but are seldom cultivated in Gardens for Pleasure. They may be propagated either by sowing their Seeds in the Spring on a moderate Hot-bed, or by planting Cuttings or Slips in any of the Summer-months: but these Plants producing Seeds in Plenty, it is the common Method to increase or maintain them by Seeds. These must be planted in Pots filled with light sandy Earth, and must be sheltered in Winter; giving them as much free open Air as possible in mild Weather, and often refreshing them with Water. With this Management they may be trained up to the Height of three or four Feet, and will grow shrubby; but if suffer'd to remain abroad, they will not survive the Winter.

The seventh Sort is an annual, and is a Plant of very little Beauty: it is only preserved for Variety, and will require no further Care than to suffer the Seeds to fall upon the Ground; which will arise, and afford an abundant Supply of Plants.

The eighth Sort is an abiding Plant, which deserves a Place in the most curious Gardens for the Beauty of its Flowers. This is propagated

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by planting Cuttings in any of the Summer-months, which should be put into Pots filled with light sandy Soil, and plunged into a moderate Hot-bed, to facilitate their Rooting; after which they may be exposed in the open Air, and some of them may be planted in a warm dry Border; where they will endure the Cold of our ordinary Winters without any Shelter: but 'tis adviseable always to preserve some in Pots under Cover in Winter, lest those abroad should be destroyed, as it sometimes happens in very severe Frosts.

This Plant producing Flowers which are of a fine soft red Colour, is a very great Ornament in Winter, when intermixed with the several Varieties of Eternal-flowers, in Glasses or Basons filled with dry Sand; which, being preserved from Wet, will afford a great deal of Pleasure, when other Flowers are not to be procured.

The ninth and tenth Sorts are biennial Plants. These seldom continue after they have flower'd, and produced Seeds. They may be sown in the Spring, upon a warm and dry Border; and when the Plants are come up pretty strong, they may be transplanted out either into Pots, or in warm Borders, allowing them at least eight or ten Inches room; for when they grow strong, they shoot out many Branches from their Sides, and produce Bunches of dry Flowers like the other Plants of this Kind; which, being preserved, add to the Variety.

But these Plants, while fresh, emit a violent strong Smell upon the least Touch; for which they have been by many People ejected. They will endure our ordinary Winters in the open Air, if planted in a dry Soil; but in severe Cold are apt to be demolished.

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The eleventh Sort is one of the most beautiful of all this Tribe, producing large Bunches of bright yellow-coloured Flowers. This is preserved in *Portugal* and *Spain*, for adorning their Places of Worship in the Winter-season; as also, for the Ladies to adorn their Heads; for which Purposes it is preferable to any of the flowery Tribe.

This Plant seldom produces Seeds in *England*; but is propagated by planting Cuttings in the Summer-season; which must be set in Pots of light Earth, and plunged into a moderate Hot-bed, to facilitate their striking Root; then you must put each Plant into a separate Pot filled with the like fresh Earth; and during the Summer-season you may expose them with Oranges, Myrtles, &c. but in Winter they must be put either under an Hot-bed-frame, or into an airy Green-house; placing them near the Windows, that they may enjoy the free Air, whenever the Weather will permit the Glasses to be opened; for if they are crowded amongst other Plants, they are apt to draw, and their Under-branches and Leaves will rot and decay: it must also have frequent, but gentle Waterings. This produces its Flowers in *May*, which, when fully grown, should be cut, and preserved in clean white Papers, and kept from the Air, which greatly diminishes their Beauty: and this cutting off the Flowers will cause them to push out many Side-shoots, whereby the Plant may be increased.

The twelfth Sort grows three or four Feet high, and shoots out many Branches, especially if the Roots are not confin'd in Pots; for if the Roots get thro' the Holes in the Bottom of the Pots, and fasten themselves in the Ground, the Plants will grow very luxuriant and rude; and upon

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removing the Pots, and separating the Roots, the Plants will often decay: therefore the Pots should be frequently removed in Summer, to prevent the Roots fastening into the Ground.

This will grow from Cuttings planted during any of the Summer-months, in a shady Border; and may be afterward taken up, and potted; for they will require to be sheltered in Winter, because in severe Frost they are always destroyed, if they are exposed.

The thirteenth, fourteenth, fifteenth, sixteenth, and seventeenth Sorts are all propagated by Cuttings, as was before directed. These may be trained up to Shrubs with regular Stems; and will grow to the Height of six or seven Feet. They are pretty hardy, and require only to be secured from our severe Frosts; and must have free open Air, and frequent Waterings, in mild Weather. These are all pretty Varieties in Collections of Exotic Plants; and although some of the Flowers have no great Beauty in them, yet they are worth preserving, for the sake of Variety.

The eighteenth Sort is very common in the *English* Gardens, and has been taken for the *Stachas citrina* of the Dispensatory, by many good Botanists; but is very different from it. This will rise to the Height of three Feet, and become shrubby: it is hardy, and may be easily propagated by planting Cuttings of it, in *April*, in a shady Border; observing to refresh them with Water, and keep them clear from Weeds. These Cuttings will have made good Roots in about two Months; when they may be taken up with a Ball of Earth to their Roots, and transplanted where they are designed to remain. These Plants may be kept in a regular Form,

Form, by pruning off their Side-branches, and supporting them with Stakes; but the Shoots must not be shortened in the Spring or Summer-months; for that will prevent their flowering.

The thirteen following Sorts are more rare in *England*, and are of humbler Growth. These may be propagated by Slips, which should be planted in Pots filled with rich light Earth, and then plunged into a very moderate Hot-bed of Tanners Bark; observing to screen them from the Sun until they have taken Root, when they should be inured to bear the open Air by degrees. In Summer these Plants should be placed abroad in a sheltered Situation, observing to water them duly in dry Weather: but in Winter they should be placed under an Hot-bed-frame, where they must have as much free Air as possible in mild Weather; for they are pretty hardy, and only require to be protected from severe Frost. The following Spring some of the Plants may be shaken out of the Pots, and planted in a warm Border near the Shelter of a Wall; where they will produce their Flowers, and may abide several Years, provided the Winters do not prove very severe. However, it will be proper to keep a Plant or two of each Kind in Pots, which may be shelter'd in Winter: so that if those which were planted abroad should be destroyed, these may be preserved to maintain the Sorts.

The six last-mentioned Kinds are somewhat tenderer than the former; therefore require a little more Care to preserve them in Winter. These may be propagated by Cuttings, in the same manner as the former; which, when rooted, must be planted in Pots filled with fresh light Earth, and placed in a shady Situa-

tion until they have taken new Root; after which time, they may be exposed with other hardy Exotic Plants, in a warm Situation, where they may be defended from strong Winds: in which Place they may remain until the Middle of *October*, when they should be removed into an open airy Green-house; where they should have as much free Air as possible in mild Weather, to prevent their making long weak Shoots; which will not only render them unsightly, but also cause them to flower sparingly. These Plants require to be frequently watered in Winter, when the Weather is mild; the want of which may be soon discovered by the hanging of their Leaves; but at this Season they must not have such large Quantities of Water as in Summer; for much Wet will sometimes destroy them.

Some of these Sorts may be trained up to the Height of three or four Feet; and if they are rightly managed, may be reduced to regular Heads; whereby they will become very ornamental in a good Garden: for as they continue to produce their Flowers through most of the Summer-months, and many of them produce Flowers late in Autumn, which will continue in Beauty most Part of the Winter-season, they afford an agreeable Variety at a Season when other Flowers are very scarce. Besides, the different Appearance which these Plants have from their hoary and woolly Leaves, makes an agreeable Diversity amongst other Plants in the Green-house, when they are wholly divested of their Flowers.

The Flowers of all these Sorts of Plants, if they are gathered when in Perfection, and laid in a dry Place, where they may be kept from Dust and Air, will continue fresh and in Beauty for several Years: so that
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from the several Varieties of these Flowers, a Bason or Flower-pot may be furnished in Winter, when few other Flowers can be procured; which will have a pretty Effect in Rooms or Halls: but the Stalks of these Flowers must not be placed in Water, nor should any Moisture come to their Flowers, for that will decay them.

ELM. *Vide* Ulmus.

EMERUS, Scorpion Sena, *vulgo*.

The Characters are;

It hath Leaves like those of the Colutea: the Flowers are papilionaceous: the Pods are slender, and contain two or three cylindrical-shaped Seeds in each.

The Species are;

1. EMERUS. *Cæsalp.* Scorpion Sena, *vulgo*.

2. EMERUS *minor.* Tourn. The lesser Scorpion Sena.

The second of these Shrubs is very common in all the Nurseries near London; but the first is at present in very few Gardens: these are both of them extreme fine flowering Shrubs, and are great Ornaments to smaller Wilderness-quarters of Shrubs, which are of equal Growth. The first will rise to the Height of nine or ten Feet, and may be reduced to a regular Figure, if proper Care be taken while they are young. The second seldom rises above four or five Feet high, but may be trained into an handsome Figure. These Shrubs continue flowering through the greatest Part of the Summer; therefore the best Season to prune them, in order to reduce them into Shape, is about the Middle of September, soon after they have done flowering: for if you cut them in Summer, it will prevent their flowering in Autumn, unless it be done in May, which will destroy the first

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Crop of Flowers, and prevent their producing Seeds.

These Shrubs are easily propagated by sowing their Seeds (which they commonly produce in great Plenty) in March, upon a Bed of light sandy Earth, observing to keep the Bed clear from Weeds; and in very dry Weather you must often refresh the Bed with Water, which should be given carefully, lest the Seeds should be wash'd out of the Ground by hasty Watering. When the Plants are come up, you must continue the same Care; and the Michaelmas following (if your Plants have thriven well) you may draw out the largest; which may be transplanted into a Nursery, at three Feet Distance Row from Row, and one Foot asunder in the Rows. This will give room to those Plants which are left to grow in the Seed-bed; in which Place they may remain another Year, when they will also be fit to transplant into a Nursery; where they should be trained up in the manner you design them to grow, either in round Heads, or in rude Plants. In one or two Years more they will be fit to plant out, where they are to remain for good: in doing of which you should be careful, in taking them up, not to break or wound the Roots: nor should they remain too long in the Nursery before they are transplanted: for they are subject to shoot down-right Roots, which, when cut off, oft-times proves the Death of the Tree. In all other respects it must be treated like other flowering Shrubs: amongst which, this is commonly sold at the Nurseries. It delights in a dry Soil, and may also be propagated by laying down the tender Branches; which will take Root in about a Year's time, and may then be transplanted into a Nursery, and managed

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managed in the same manner as the Seedlings.

EMPETRUM, Black - berry'd Heath.

The Characters are ;

It hath Leaves like those of the Heath: the Flowers are Male and Female, which grow in different Parts of the same Plant: the Male Flowers have no Petals: the Female Flowers are succeeded by black Berries, in each of which are contained three or four hard Seeds.

We have but one Species of this Plant in England; which is,

EMPETRUM montanum, fructu nigro. Tourn. Black-berry'd Heath, Crow-berries, or Crake-berries.

This little Shrub grows wild upon the Mountains of Staffordshire, Derbyshire, and Yorkshire; and is seldom propagated in Gardens, unless for Variety-sake: but it may be cultivated in shady Places, where the Soil is stiff, in Gardens, and will thrive very well; and may be propagated by sowing the Seeds, soon after they are ripe, in a moist shady Place, which should be kept clear from Weeds, and suffer'd to remain undisturbed until the second Year, at which time the Plants will come up; and the Year following may be transplanted where they are to remain; and will require no farther Care than to clear them from Weeds, provided they have a moist Soil, otherwise they will require to be frequently watered; for these low Shrubs commonly grow upon the Tops of wild Mountains, where the Soil is generally peaty, and full of Bogs: the Heathcocks feed much upon the Berries of this Plant; so that wherever there is Plenty of these low Shrubs, there are commonly many of these Fowls to be found.

ENULA CAMPANA. Vide Helianthemum.

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EPHEDRA, Shrubby Horse-tail, vulgo.

The Characters are ;

It hath an apetalous Flower, consisting of many Stamina, which are for the most part barren; for the Embryoes grow on different Parts of the same Plant, or on other Plants, which have no conspicuous Flowers: these Embryoes afterward become soft Berries, in which are contained many oblong Seeds.

The Species are ;

1. *EPHEDRA maritima major*. Tourn. Greater Sea Horse-tail.

2. *EPHEDRA maritima minor*. Tourn. Lesser Sea Horse-tail.

3. *EPHEDRA sine anabasis*. Bellon. Tourn. Climbing Sea Horse-tail.

4. *EPHEDRA Hispanica arborescens, tenuissimis & densissimis foliis*. Tourn. Spanish tree-like Horse-tail, with narrow clustery Leaves.

5. *EPHEDRA Cretica, tenuioribus & rarioribus flagellis*. Tourn. Candy Horse-tail, with narrower and fewer Branches.

6. *EPHEDRA Orientalis procerior, flagellis durioribus, & media crassitie*. Tourn. Taller Eastern Horse-tail, with harder and thicker Branches.

The first of these Plants is pretty common in the English Gardens; but the others are at present pretty rare in this Country; and are only cultivated in Botanic Gardens for the sake of Variety; there being little Beauty in these Plants, nor are they used in Medicine.

They may be propagated by Offsets, which they send forth in great Plenty; for they creep under-ground by their Roots, and send forth Suckers, which may be taken off to transplant in the Spring. They love a pretty moist strong Soil, and will endure the Cold of our ordinary Winters very well in the open Air. The first,

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first, fourth, and sixth Sorts will rise to the Height of three or four Feet, provided their Roots are kept pretty clear from Suckers; otherwise they will spread very far, and send forth great Plenty of Suckers; which will prevent their rising in Height. Some of these Plants were formerly preserved in Pots, and were housed in Winter; but by later Experience they are found to thrive better in the full Ground.

EPHEMERON, *Virginian Spiderwort*, *vulgo*.

The Characters are;

The Cup of the Flower consists of three Leaves: the Flower also hath three Petals, which expand in form of a Rose; and hath three Stamina, or Threads, which surround the Ovary: the Fruit is oblong, and divided into three Cells, which are filled with Seeds like a Grain of Wheat.

The Species are;

1. **EPHEMERUM** *Virginianum*, *flore cœruleo majori*. Tourn. *Virginian Spiderwort*, with a large blue Flower.

2. **EPHEMERUM** *Virginianum*, *flore purpureo majori*. Tourn. *Virginian Spiderwort*, with a large purple Flower.

3. **EPHEMERUM** *Virginianum*, *flore azureo majori*. Tourn. *Virginian Spiderwort*, with a large azure Flower, commonly called the Savoy Spiderwort.

4. **EPHEMERUM** *Virginianum*, *flore cœruleo minore*. Tourn. *Virginian Spiderwort*, with a small blue Flower, commonly called, *John Tradescant's Spiderwort*.

5. **EPHEMERUM** *Virginianum*, *flore albo*. Tourn. *Virginian Spiderwort*, with a white Flower.

6. **EPHEMERUM** *Virginianum*, *flore purpureo minore*. Tourn. *Virginian Spiderwort*, with a small purple Flower.

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The several Varieties of this Plant are easily propagated, by parting their Roots either in Spring or Autumn; and should be planted in a moist Soil, where they will thrive and increase exceedingly, and are extreme hardy, enduring our severest Cold in the open Air.

These are very proper for large Borders, where they may have room to grow; but if they are planted in small Borders, they should be parted into small Heads every Year, otherwise they will grow too large for such Places. They may be planted in shady Borders, where their Flowers will continue longer than if exposed too much to the great Heat of the Sun. This Flower seldom survives the Day; but is succeeded by new daily, for several Months; so that it may deserve a Place for the long Continuance of its Flowering.

EPILOBIUM, *Willow-herb*, or *French Willow*.

The Characters are;

The Flower is composed of four roundish Petals: the Empalement is four-leav'd, which falls away: the Pointal is situated in the hinder Part of the Flower, and is attended by eight Stamina, which are alternately shorter: the Pointal afterward becomes a long cylindrical Pod, which is streaked, and divides into four Parts, and full of small oblong Seeds, which have Down adhering to each.

The Species are;

1. **EPILOBIUM** *foliis lanceolatis integerrimis*. Lin. Hort. Cliff. Common broad-leav'd Willow-herb, or French Willow.

2. **EPILOBIUM** *foliis lanceolatis serratis*. Lin. Hort. Cliff. Willow-herb, with spear-shaped sawed Leaves, commonly called Codlins and Cream.

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3. *EPILOBIUM foliis ovato-oblongis integerrimis. Lin. Flor.* Willow-herb, with oval intire Leaves.

4. *EPILOBIUM foliis ovatis dentatis. Lin. Hort. Cliff.* Smooth-leav'd Willow-herb, with a small Flower.

5. *EPILOBIUM foliis linearibus. Lin. Flor.* Narrow smooth-leav'd Willow-herb, with a small Flower.

The first Sort here mentioned was formerly planted in Gardens, for the Beauty of its Flowers; but as it usually spreads far by the creeping Roots, whereby it over-runs all the neighbouring Plants, it has been cast out of most Gardens: but in some low moist Places, or in great Shade, if there was a Place assign'd for this Plant, it will make a good Appearance when it is in Flower; and these Flowers are very proper to cut for Basons to adorn Chimneys in the Summer-season. This usually grows about four Feet high, with slender stiff Branches, which are beset with Leaves resembling those of the Willow; from whence it had the Name of *Willow-herb*, or *French Willow*: on the upper Part of the Stalks the Flowers are produced in long Spikes, which are of a fine Peach-colour; and, if the Season is not very hot, they will continue near a Month in Beauty. This Sort is found wild in divers Parts of *England*; but several Botanists have supposed it was only found in such Places where the Plants had been cast out of Gardens: however, I think it must be allowed to be a Native of this Country, since it is found in great Plenty in Woods at great Distance from any Habitation, particularly in *Charlton Forest*, and several other Woods, in *Sussex*. It is a great Creeper at the Root; so may be easily propagated.

The second Sort is found wild by the Side of Ditches and Rivers in

many Parts of *England*: this Plant grows about three Feet high, and produces its Flowers on the Top of the Stalks: but these are much less beautiful than those of the first; and the Plant, being a great Rambler at the Root, is never admitted into Gardens. The Leaves of this Plant, being rubbed, emit a Scent like scalded Apples; from whence some have given the Name of *Codlins and Cream* to this Plant.

The third Sort, being a Plant of no Beauty, is never preserved but in Botanic Gardens, for Variety.

The fourth and fifth Sorts are very common Weeds, growing in Woods, and other shady Places, in most Parts of *England*; so are never permitted to have a Place in the Gardens; for by the Down which adheres to the Seeds, they are carried about to a great Distance, and become troublesome Weeds.

EPIMEDIUM, Barrenwort.

The Characters are;

The Stalks are divided into three Branches, each single Branch sustaining three Leaves, which are shaped somewhat like Ivy: the Calyx consists of four Leaves: the Flower consists of four Petals, which are hollow, and expand in form of a Cross: the Pointal of the Flower becomes a Pod with one Cell, having two Valves, in which are contained round flat Seeds.

We have but one Species of this Plant at present in *England*; which is,

EPIMEDIUM. C. B. Barrenwort.

This is a Plant of no great Beauty; yet, for Diversity, may have a Place in a Garden: it is easily propagated, by parting the Roots, which increase very fast underground, either in the Spring or Autumn; and should be planted in a moist Soil, and a shady Situation.

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This Plant produces its Flowers in May; but seldom ripens Seeds with us; which may be owing to its spreading Roots, which exhaust the Nourishment from the Flowers and Fruit, and might, perhaps, be procured, by confining the Roots to a Pot. The Roots, if planted in a good Border, should be every Year reduced, so as to keep it within Bounds; otherwise it will overspread the whole Spot, and destroy whatever Plants grow near it.

EQUISETUM, Horse-tail.

There are several *Species* of this Plant, which are found in England, on the Sides of Ditches, or in shady Woods; but as they are Plants which are never cultivated in Gardens, I shall pass them over in this Place.

ERANTHEMUM. *Vide* Adonis.

ERICA, Heath.

The Characters are;

It is a Shrub of low Stature: the Leaves are small, and abide green all the Year: the Flower consists of one Leaf, is naked, and for the most part shaped like a Pitcher: the Ovary, which is produced in the Bottom of the Flower, becomes a roundish Fruit, which is divided into four Cells, in which are contained many small Seeds.

The Species are;

1. **ERICA vulgaris glabra**. C. B. Common smooth Heath.

2. **ERICA vulgaris hirsuta**. C. B. Common rough-leav'd Heath.

3. **ERICA tenuifolia**. Ger. Fine narrow-leav'd Heath.

4. **ERICA vulgaris, flore albo**. C. B. Common Heath, with a white Flower.

5. **ERICA Brabantica, folio coridis, hirsuto quaterno**. J. B. Low-Dutch Heath.

6. **ERICA foliis coridis, multiflora**. J. B. Fir-leav'd Heath, with many Flowers.

7. **ERICA Cantabrica, flore maxi-**

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mo, foliis myrti, subtus incanis. Tourn. Hoary myrtle-leav'd Heath, with a large Flower.

These Plants grow wild upon barren uncultivated Places, in divers Parts of England: but notwithstanding their Commonness, yet they deserve a Place in small Quarters of humble flowering Shrubs, where, by the Beauty and long Continuance of their Flowers, together with the Diversity of their Leaves, they afford a very agreeable Prospect.

These are seldom propagated in Gardens, and so not to be had from the Nurseries; but may be taken up, with a Ball of Earth to their Roots, from the natural Places of their Growth, either in Spring or Autumn, and may be transplanted into the Garden. The Soil where they are planted should not be dung'd; nor should you bestow any other Culture on them, than clearing them from Weeds; for the less the Ground is dug, the better these will thrive: and they commonly shoot their Roots near the Surface, which, in digging, are subject to be hurt, whereby the Plant is often destroyed. These may also be propagated by Seeds; but this being a tedious Method, the other is much preferable to it.

ERICA BACCIFERA. *Vide* Empetrum.

ERIGERON. *Vide* Senecio.

ERUCA, Rocket.

The Characters are;

The Flower consists of four Leaves, which expand in form of a Cross: the Pointal becomes a Pod, which is divided into two Cells by an intermediate Partition, to which the Valves adhere on both Sides: these Cells are full of roundish Seeds: to which may be added, The whole Plant hath a peculiar fetid Smell.

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The Species are;

1. *ERUCA sylvestris major lutea*, caule aspero. C. B. Greater wild Rocket, with a rough Stalk, and yellow Flower.

2. *ERUCA tenuifolia perennis*, flore luteo. J. B. Narrow-leav'd perennial Rocket, with a yellow Flower.

3. *ERUCA bellidis folio*. Mor. Hist. Daisy-leav'd Rocket.

4. *ERUCA tanacetifolia*. H. R. Par. Tanfy-leav'd Rocket.

5. *ERUCA major sativa annua*, flore albo striato. C. B. Great Garden Rocket, with a white striped Flower.

6. *ERUCA sativa, foliis magis diffusis*. Hort. Edin. Garden Rocket, with deeply-cut Leaves.

The four first Sorts are Varieties which are preserved in curious Botanic Gardens; but are Plants of no great Beauty or Use: the first is very common upon dry Banks, and old Walls, in divers Parts of England.

The fifth Sort was formerly very much cultivated in Gardens as a Sallad-herb; but at present is very little used.

The sixth is a Variety of the fifth, from which it differs in having the Leaves deeply cut or jagged.

These may be all propagated by sowing their Seeds in the Spring on a Bed of light Earth, where they will soon come up; and, being Plants of quick Growth, will be large enough for Use in a short time; for, if they are suffered to grow large, they become too strong to be eaten in Sallads. Some of the Plants may be left for Seeds, which they will produce in great Plenty the same Summer.

ERUCAGO, Corn-rocket.

The Characters are;

The Flower consists of four Leaves, which expand in form of a Cross: the

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Pointal becomes a four-corner'd Fruit, resembling a crested Club, which is, for the most part, divided into four Cells, in which are contained roundish Seeds, which have a Beak.

We have but one Species of this Plant; which is,

ERUCAGO segetum. Tourn. Corn-rocket.

This Plant grows wild in the warm Parts of France and Spain, and is preserved, for the sake of Variety, in curious Botanic Gardens. It may be propagated in like manner as the Rocket; but being a Plant of no Beauty or Use, is hardly worth cultivating.

ERVUM, Jointed-podded bitter Vetch.

The Characters are;

It hath a papilionaceous Flower, out of whose Empalement arises the Pointal, which becomes a jointed Pod, undulated on both Sides, and, in a manner, knotted, which is full of roundish Seeds: to which may be added, The Leaves grow by Pairs on a Midrib.

The Species are;

1. *ERVUM verum Camer.* The true *Ervm* of *Camerarius*. This is also called *Orobis filiquis articulatis*. And the Seeds of this are sometimes used in Medicine.

2. *ERVUM semine minore*. Tourn. Small-seeded *Ervm*.

3. *ERVUM semine obtuso trianguls*. Tourn. *Ervm* with an obtuse triangular Seed.

4. *ERVUM Orientale alopecuroides perenne, fructu longissimo*. T. Cor. Oriental perennial *Ervm*, with a very long Fruit.

The three first Sorts are very common in the Fields in warmer Countries; but are preserved in curious Botanic Gardens for Variety. They may be propagated in the same manner as Peas; but require a warm Soil,

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Soil, and an open Situation, otherwise they will not ripen their Seeds with us. In the hotter Countries they use them for Food; but with us they are of little Use.

The fourth Sort is an abiding Plant; the Roots will continue several Years, provided they are not transplanted, and will spread very far under-ground: the Shoots rise three Feet high; but rarely produce Flowers in England: but the Plant dies to the Root every Autumn: this is propagated by its Seeds, which should be sown where the Plants are to remain.

ERYNGIUM, Sea-holly or Eryngo.

The Characters are;

The Leaves are produced alternately on the Branches: the Flowers consist of five Leaves, which are plac'd orbicularly, and are reflex'd back to the Centre of the Flower: the Empalement afterward becomes a Fruit, compos'd of two Seeds, which are sometimes foliated, and sometimes plain: to which may be added, The Flowers are collected into a squamose Head, which is prickly.

The Species are;

1. **ERYNGIUM maritimum**. C. B. Sea-holly or Eryngo.

2. **ERYNGIUM vulgare**. C. B. Common Eryngo.

3. **ERYNGIUM latifolium planum**. C. B. Broad-leav'd plain Eryngo.

4. **ERYNGIUM latifolium planum**, caule ex viridi pallescente, flore albo. C. B. Broad-leav'd plain Eryngo, with a greenish white Stalk, and a white Flower.

5. **ERYNGIUM montanum amethystinum**. C. B. Purple violet-colour'd mountain Eryngo.

6. **ERYNGIUM Alpinum amethystinum**, capitulo majore pallescente. Tourn. Alpine Eryngo, with a large pale-colour'd Head.

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7. **ERYNGIUM Orientale**, foliis trifidis. T. Cor. Oriental Eryngo, with trifid Leaves.

8. **ERYNGIUM foliis gladiolatis utrinque laxe serratis, denticulis subulatis**. Lin. Hort. Cliff. American Sea-holly, with Leaves like the Aloe, lightly sawed, commonly called Rattle-snake-weed in America.

9. **ERYNGIUM planum minus**. C. B. P. Lesser plain Eryngo.

10. **ERYNGIUM maritimum Lusitanicum, ampliore folio**. Inst. R. H. Portugal Sea-holly, with a broad Leaf.

11. **ERYNGIUM Alpinum caeruleum, capitulis dipsaci**. C. B. P. Blue Alpine Eryngo, with Heads like the Teasel.

12. **ERYNGIUM capitulis psyllii ex Sicilia**. Bocc. Rar. Plant. Eryngo from Sicily, with Fleawort-heads.

The first of these Species grows in great Plenty on the sandy and gravelly Shores in divers Parts of England, the Roots of which are candy'd, and sent to London for Medicinal Use; and is the true Eryngo.

The fifth, sixth, eighth, eleventh, and twelfth Sorts are beautiful Plants in Gardens; tho' at present they are very uncommon in England; but deserve a Place in the most curious Flower-gardens.

The first and second Sorts have creeping Roots, which spread far under-ground; so that when once the Plants are fixed, they will propagate themselves in plenty, especially the second Sort, which will become a troublesome Weed; therefore is rarely admitted into Gardens.

The third and fourth Sorts seldom continue long; so should be renewed by sowing of their Seeds, which ripen in plenty: and if they are sown in Autumn soon after they are ripe, the Plants will come up well the following Spring; but when the Seeds

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Seeds are sown in the Spring, it is commonly a Year before the Plants come up: these Plants are hardy enough to thrive in almost any Soil or Situation.

The fifth, sixth, seventh, tenth, eleventh, and twelfth Sorts are all perennial Plants, and will all of them, except the last, grow in any Soil or Situation; but the last should be planted in a warm Border, otherwise the Cold of the Winter will destroy the Plants.

These may all be propagated by sowing their Seeds in a Border of common Earth, as was directed for the former Sorts; and may be planted where they are to remain at *Michaelmas*: the fifth is by much the most beautiful of all the Sorts, and will thrive in any Part of the Garden; so merits a Place: and some of the other Sorts may be cultivated in large Gardens, where there is room for Variety; but are not so proper for small Gardens.

The eighth Sort is a Native of *America*: the Seeds of this Sort have been introduced of late into the *English* Gardens, where the Plants are now pretty common: these Plants in their Growth have a great Resemblance to some Sorts of Aloes, or the Yucca; but the Leaves are thinner, and of a pale glaucous Colour, and sawed on their Edges: in the Centre of the Plant the Flower-stem arises about two Feet high or upwards, producing Flowers in an Umbel on their Tops. It is said, that this Plant will cure the Bite of the Rattle-snake, when it is immediately applied; and from thence the Inhabitants of *Virginia* gave it the Title of Rattle-snake-weed.

This Sort is propagated by Seeds; but as the Seeds do not often ripen in this Country, so, if they are not procured from abroad, the Plants

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cannot be had in great Plenty; for they do not send forth Off-sets: but as the Plants will continue many Years, when once they are obtained, they may be easily preserved; for they will endure the Cold of our common Winters in the open Air, provided they are planted in a dry Soil, and have a warm Situation. When the Seeds of this Plant are obtained, if they are sown in a Bed of light Earth early in the Spring, the Plants will come up the same Summer, and be strong enough to transplant by *Michaelmas*.

ERYSIMUM, Hedge-mustard.

The Characters are;

The Flower consists of four Leaves, which expand in form of a Cross: the Pointal becomes a long slender bivalve Pod, which is divided into two Cells by an intermediate Partition, in which are contained many round Seeds.

The Species are;

1. *ERYSIMUM vulgare*. C. B. Common Hedge-mustard.

2. *ERYSIMUM latifolium majus glabrum*. C. B. Great broad-leav'd smooth Hedge-mustard.

3. *ERYSIMUM polyceratum vel corniculatum*. C. B. Hedge-mustard with many crooked Pods.

4. *ERYSIMUM angustifolium majus*. C. B. Great narrow-leav'd Hedge-mustard.

5. *ERYSIMUM Sophia dictum*. *Raii Syn. Ed.* 3. Flix-weed.

There are several other Varieties of this Plant, which are preserved in Botanic Gardens: but as they are Plants of little Use or Beauty, they are seldom propagated in any other Garden.

The first, second, and fifth Sorts are very common upon dry Banks in divers Parts of *England*: but the third and fourth Sorts are Natives of a warmer Country.

These may all be propagated by sowing

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sowing their Seeds soon after they are ripe, which will come up in a short time, and will stand abroad, and endure the Winter's Cold very well; and early in the Spring they will shoot up to Flower, and produce ripe Seeds in *June* or *July*; but if they are sown in the Spring, the Seeds seldom come up so well; nor do the Plants arrive at half the Strength of those sown in Autumn; for, when the Heat comes on, they soon run up to Flower, and thereby produce not half the Quantity of Seeds.

The first and fifth Sorts are used in Medicine, but particularly the fifth, the Seeds of which are by many People said to be an extraordinary Medicine for the Stone and Gravel.

ESPALIERS,

Are either Rows of Trees planted about a whole Garden or Plantation, or in Hedges, so as to inclose Quarters, or separate Parts, of a Garden, which are trained up flat in a close Hedge, for the Defence of tender Plants against the Violence and Injury of Wind and Weather. See *Hedges*.

The most commonly receiv'd Notion of Espaliers are Hedges of Fruit-trees, which are train'd up regularly to a Lattice of Wood-work; formed either of Ash-poles, or square long Timbers cut out of Fir, &c. and it is of this Sort of Espalier that I shall treat in this Place.

Espaliers of Fruit-trees are commonly planted to surround the Quarters of a Kitchen-garden; for which Purpose they are of admirable Use and Beauty: for by laying out the Walks of this Garden regularly, which are bounded on each Side by these Hedges, when they are handsomely managed, they have a wonderful Effect in sheltering the Kitchen-plants in the Quarters, and also

screening them from the Sight of Persons in the Walks; so that a Kitchen-garden, well laid out in this manner, and regularly managed, will be equal to the finest Parterre for Beauty.

The Trees chiefly planted for Espaliers are Apples, Pears, and some Plums; but the two former are mostly used: some plant Espaliers of Apples grafted upon Paradise-stocks; but, these being of a short Duration, are not so proper for this Purpose; therefore I should rather advise the having them upon Crab-stocks, or (if in smaller Gardens, where the Trees cannot be allowed to grow so high) upon what the Gardeners call the *Dutch* Stock; which will cause them to bear sooner, and prevent their growing too luxuriant.

In choosing the Trees for an Espalier, endeavour, as near as possible, to plant the several Sorts which are nearly of the same Growth in one Line, that the Espalier may be the more regular, and of an equal Height, which greatly adds to their Beauty; for if you plant Trees which shoot very unequally in the same Line, it will be impossible to make the Espalier regular: besides, the Distance the Trees are to be planted must be directed hereby; for some Trees, *viz.* those of a larger Growth, should be planted twenty-five or thirty Feet asunder; whereas those of smaller Growth need not be above sixteen or eighteen Feet Distance from each other.

The Width of the Walks between these Espaliers should (in a large Garden) be fourteen or sixteen Feet at least; and if they are designed to be carried up pretty high, the Distance should be greater, that each Side may receive the Advantage of the Sun and Air; which is absolutely necessary, if you would have the
Fruit

Fruit well-tasted. And if your Ground is so situated, that you are at full Liberty which Way to make the Espaliers, I would advise the placing the Lines from the East a little inclining to the South, and toward the West a little inclining to the North, that the Sun may shine between the Rows in the Morning and Evening when it is low ; for in the Middle of the Day, when the Sun is advanced far above the Horizon, it will shine over the Tops of the Espaliers, and reach the Surface of the Earth about their Roots ; which is a Matter of more Consequence than many People are aware of.

The Sorts of Apples proper for Espaliers are the Golden Pippin, Nonpareil, Rennette Grise, Aromatic Pippin, Holland Pippin, French Pippin, Wheeler's Russet, Pile's Russet, with several others. The Season for planting, and the Method of pruning and training these Trees, you'll see under the Articles of *Apples*, and *Pruning*.

The Sorts of Pears proper for an Espalier are Summer and Autumn Fruits ; for some of the Winter Pears seldom succeed well in an Espalier. These Trees, if designed for a strong moist Soil, should be upon Quince-stocks ; but if for a dry Soil, upon Free-stocks. Their Distance of Planting must be regulated by the Growth of the Trees, which are more unequal in Pears than Apples, and should therefore be more carefully examined before they are planted. As for those Pears upon Free-stocks, the Distance should never be less than twenty-five Feet for moderate-growing Trees ; but for vigorous Shooters, the Space of 30 or 35 Feet is little enough, especially if the Soil be strong, in which Case they should be planted at a greater Di-

stance. The particular Sorts of Pears I would recommend for an Espalier, are the *Jargonelle*, *Blanchette*, *Poire sans Peau*, Summer *Boncretien*, *Hamden's Burgamot*, *Poire du Prince*, Autumn *Bergamot*, *L'Ambrette*, *Gros Rousselet*, *Chaubontelle*, *Beurre du Roy*, *Le Marquis*, *Cressane*, with many other of less Note, always remembering, that those Pears which are of the melting Kind, will do better in Espalier than the breaking Pears, which seldom ripen well on Espalier : you should also be careful of the Stocks these are grafted on ; for if the breaking Pears are grafted upon Quince-stocks, the Fruit will be stony. As for the Method of Planting, see the Article *Pear* ; and for Pruning and Managing, see *Pruning*.

I shall now give Directions for making the Espalier, to which the Trees are to be trained : but this I would not have done until the third Year after the Trees are planted ; for while they are young, it will be sufficient to drive a few short Stakes into the Ground on each Side of the Trees, to which the Branches should be fastened in an horizontal Position, as they are produced ; which Stakes may be placed nearer, or at a farther Distance, according as the Shoots produced may require, and will be sufficient for the three first Years ; for should you frame the Espalier the first Year the Trees are planted, the Poles would rot before the Espalier is covered. The cheapest Method to make these Espaliers is with Ash-poles, of which you should have two Sorts ; one of the largest Size, which contains thirteen Poles in a Bundle, and the other Size those of half an Hundred : the first or largest-size Poles should be cut about seven Feet and an half long ; these are intended for upright Stakes, and must

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be sharpened at the largest End, that they may, with more Ease, be driven into the Ground; these should be placed at a Foot Distance from each other in a direct Line, and of an equal Height, about six Feet above-ground; then you should nail a Row of strait slender Poles along upon the Tops of the upright Stakes, which will keep them exactly even, and continue to cross the Stakes with the smaller Poles, and the Tops which were cut off from the larger ones, at about nine Inches Distance, Row from Row, from the Top to the Bottom of the Stakes. These Rows of Poles should be fastened with Wire, and the largest End of the Poles should be nailed to the upright Stakes, which will secure the Espalier almost as long as the Poles will endure; whereas, if your Fastening is not strong, the Poles will be continually displaced with every strong Wind.

When the Espalier is thus framed, you must fasten the Branches of the Trees thereto, either with small Osier-twigs, or some such Binding, observing to train them in an horizontal Position, and at equal Distances; being careful not to cross any of the Branches, nor to lay them in too thick: the Distance I would allow for the Branches of Pears and Apples, should be proportioned according to the Size of their Fruit; such of them whose Fruit is large, as the Summer *Boncretien*, Monsieur *John*, and *Beurre du Roy* Pears, and the Rennet Grise, *Holland* Pippin, *French* Pippin, and other large Apples, should have their Branches six or eight Inches Distance at least; and to those of lesser Growth, four or five Inches will be sufficient. But for farther Directions, I shall refer to the Articles of the several Fruits; as also that of

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Pruning, where the Particulars will be sufficiently explained.

But, besides this Sort of Espalier made with Ash-poles, there is another Sort that is by many People preferred; which is framed with square Timbers cut to any Size, according to the Strength thereof, or the Expence the Owner is willing to go to: these, tho' they appear more lightly, when well fixed and painted, are not of longer Duration than one of the former, provided it is well made, and the Poles are strong which are set upright; nor will they answer the Purpose better, tho' they are vastly more expensive; for the greatest Beauty consists in the disposing the Branches of the Tree, which, especially in Summer, when the Leaves are on, will intirely hide from the Sight the Frame of the Espalier: therefore all Expence in erecting these is needless, farther than making Provision to secure the Branches of the Trees in a regular Order.

Fruit-trees thus planted, and well managed, are much preferable to those trained up in any other Figure, upon several Accounts: as first, these take up very little room in a Garden, so as to be hurtful to the Plants which grow in the Quarters; and, secondly, the Fruit upon these are better tasted than those which grow upon Dwarfs, the Sun and Air having freer Access to every Part of the Tree; whereby the Dampness arising from the Ground is sooner dissipated; which is of singular Advantage to Fruit-trees (as hath already been shewn).

EVER-GREEN THORN. *Vide* *Pyracantha*.

EVERLASTING PEA. *Vide* *Lathyrus*.

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EUONYMUS, The Spindle-tree, or Prickwood.

The Characters are ;

It has four redish Lines running along the Branches, which make them appear, in some measure, quadrangular : the Flowers, for the most part, consist of four Leaves, which are succeeded by quadrangular Fruit, containing four red Seeds in each.

The Species are ;

1. **EUONYMUS vulgaris, granis rubentibus.** C. B. The common Spindle-tree.

2. **EUONYMUS latifolius.** C. B. Broad-leav'd Spindle-tree.

3. **EUONYMUS Virginianus, pyracanthæ foliis, sempervirens, capsula verrucarum instar asperata rubente.** Pluk. Phyt. 115. f. 5. Virginian Ever-green Spindle tree, with rough warted red Seed vessels.

The first of the Species is very common in Hedges in divers Parts of England ; where it seldom rises to any considerable Stature : but, if planted amongst other Trees in Wilderness-quarters, may be trained up so as to become a large handsome Tree ; and in the Autumn-season, when the Fruit is ripe, makes a very handsome Appearance. The Wood of this Tree is used by the Instrument-makers, for Tooothing of Organs and Virginal-keys, Tooth-pickers, Spindles, and to make Skewers, &c. The broad-leav'd Sort, tho' very common in most Parts of Europe, yet is rarely to be found in England, except in curious Collections of Trees and Shrubs. These two Plants are very hardy, in respect to Cold, and may be propagated either by sowing the Seeds, or laying down the Branches : but the first, being a tedious Method, is seldom practised ; for the Seeds remain in the Ground until the second Year

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before the Plants come up ; and afterwards make but little Progress during the three or four first Years ; whereas those raised by Layers will make handsome Trees in three or four Years time.

The third Sort is a Native of America ; and has, but of late Years, been propagated in the Nurseries. This Plant is an Ever-green, and will rise to the Height of six or eight Feet ; and produces Fruit in England, which ripens late in the Autumn, and will continue upon the Shrubs great Part of Winter ; at which time, when the Plants have plenty of Fruit, intermixed with the green Leaves, they make a fine Appearance.

If this Shrub is planted in a sheltered Situation, it will live in the open Air, and thrive very well. It is chiefly propagated by Layers, because the Seeds lie in the Ground a whole Year before the Plants appear.

EUPATORIOPHALACRON, Naked-headed Hemp-agrimony.

The Characters are ;

It is a corymbiferous Plant, which in some Species hath radiate Flowers, whose Florets are Hermaphrodite, and the Half florets are Female ; but in other Species the Flowers are produced in a Disk, and are, for the most part, Hermaphrodite : the Ovaries have naked Heads, and are placed on a woolly Placenta : all these Parts are contained in a Flower cup, which is divided into many Parts to the Placenta.

The Species are ;

1. **EUPATORIOPHALACRON balsaminæ fœminæ folio, flore albo discoid.** Vaill. Naked-headed Hemp-agrimony, with a Female-balsam leaf, and a white discous Flower.

2. **EUPATORIOPHALACRON men-**

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the arvensis folio. Vaill. Naked-headed Hemp-agrimony, with a Water-calaminth leaf.

3. *EUPATORIOPHALACRON foliis angustis, rarius dentatis, flore radiato. Vaill.* Naked-headed Hemp-agrimony, with narrow-indent-ed Leaves, and a radiated Flower.

4. *EUPATORIOPHALACRON folio trinervi subrotundo, flore minore luteo radiato. Vaill.* Naked-headed Hemp-agrimony, with a roundish trinervated Leaf, and a smaller yellow radiated Flower.

5. *EUPATORIOPHALACRON folio trinervi subrotundo, flore majore luteo radiato. Vaill.* Naked-headed Hemp-agrimony, with a roundish trinervated Leaf, and a larger yellow radiated Flower.

6. *EUPATORIOPHALACRON persicae folio trinervi, flore minimo luteo discoide. Vaill.* Naked-headed Hemp-agrimony, with a trinervated Peach-leaf, and the least yellow discous Flower.

7. *EUPATORIOPHALACRON scrophulariae folio trinervi. Vaill.* Naked-headed Hemp-agrimony, with a trinervated Figwort-leaf.

8. *EUPATORIOPHALACRON scrophulariae folio trinervi, caule alato. Vaill.* Naked-headed Hemp-agrimony, with a trinervated Figwort-leaf, and a winged Stalk.

9. *EUPATORIOPHALACRON Americanum procumbens, origani folio, flore luteo. Houst.* Trailing American naked-headed Hemp-agrimony, with an Origany-leaf, and a yellow Flower.

All these Plants, being annual, must be sown every Spring on an Hot-bed; and transplanted afterward to another, in order to bring them forward; otherwise they will not perfect their Seeds in this Country: for most of them are Natives

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of the warmer Parts of *America*; therefore they must be treated after the manner of *Amaranths*, bringing them forward on Hot-beds until *June*: about the Middle of which Month, they may be transplanted into Beds or Borders of rich Earth; where, if they are duly watered in dry Weather, they will produce their Flowers in *July*; and their Seeds will ripen in *September*. There is no great Beauty in these Plants; therefore they are seldom cultivated, but in Botanic Gardens, for the sake of Variety.

EUPATORIUM, Hemp-agrimony.

The Characters are;

It hath a perennial fibrose Root: the Leaves are placed opposite upon the Stalks: the Cup of the Flower is long, taper, and scaly: the Flowers are collected into an Umbel upon the Tops of the Stalks, which consist of many long bifid Threads.

The Species are;

1. *EUPATORIUM cannabinum.*
C. B. Common Hemp-agrimony.

2. *EUPATORIUM urticae foliis, Canadense, flore albo. H. L.* Canada Hemp-agrimony, with Nettle-leaves, and a white Flower.

3. *EUPATORIUM Novae Angliae, urticae foliis, floribus purpurascens, maculato caule. H. L.* New-England Hemp-agrimony, with Nettle-leaves, purplish Flowers, and spotted Stalks.

4. *EUPATORIUM folio oblongo rugoso, caule purpurascens. Tourn.* Canada Hemp-agrimony, with a long rough Leaf, and purplish Stalk.

5. *EUPATORIUM Novae Angliae, betonicae foliis villosis, flore albo. Par. Bat.* New-England Hemp-agrimony, with Betony-leaves, and a white Flower.

6. *EUPATORIUM Americanum scandens, hastato magis acuminato folio.*

folio. Vaill. Climbing American Hemp-agrimony, with a spear-like sharp-pointed Leaf.

7. *EUPATORIUM Americanum, foliis rotundioribus absque pediculis. Vaill.* American Hemp-agrimony, with round Leaves, without Foot-stalks.

8. *EUPATORIUM scandens, foliis subrotundis lucidis, floribus spicatis albis. Houst.* Climbing Hemp-agrimony, with roundish shining Leaves, and white Flowers growing in a Spike.

9. *EUPATORIUM Americanum, teucritii folio, flore niveo. Vaill. Mem. Acad. Scien.* American Hemp-agrimony, with a Tree-germander Leaf, and a white Flower.

10. *EUPATORIUM Virginianum, salviæ foliis longissimis acuminatis, perfoliatum. Pluk. Almag.* Virginian Hemp-agrimony, with long sage-like Leaves closely furrounding the Stalk.

11. *EUPATORIUM betonicæ folio glabro & carnofo, flore cœruleo. Houst.* Hemp-agrimony with a fleshy smooth Betony-leaf, and a blue Flower.

12. *EUPATORIUM Americanum arborefcens, mori folio, floribus albicantibus. Houst.* Tree-like American Hemp-agrimony, with a Mulberry-leaf, and white Flowers.

13. *EUPATORIUM Americanum frutescens, balsaminæ luteæ foliis, nigris maculis punctatis. Houst.* American shrubby Hemp-agrimony, with yellow Balsamine-leaves spotted with black Marks.

14. *EUPATORIUM Peruvianum, folio subrotundo trinervi utrinque acuto, flore cœruleo. Vaill. Mem. Acad. Scien.* Peruvian Hemp-agrimony, with roundish Leaves ending in a sharp Point, and blue Flowers.

The first of these Plants is found wild by Ditches and River-sides in most Parts of England; and is the

only Species of this Genus which is a Native in Europe; but America abounds with a vast Number of Species, many of which are annually brought over, and preserved in curious Botanic Gardens; tho' the first Sort is only at present used in Medicine.

These Plants are most of them hardy enough to endure the Cold of our Winters in the open Air, provided they are planted in a dry Soil; and may be propagated by parting their Roots in March or October: but if you do this in the Spring, you must observe to water and shade the Plants until they have taken Root, if the Weather should prove dry; and those that are transplanted in Autumn, should be protected from severe Frosts in Winter; which would be apt to destroy them before they have got fast rooting in the Ground.

These Plants may also be propagated by sowing their Seeds, which should be done early in the Spring, upon a Bed of light Earth, observing to water them in dry Weather: but they seldom come up until the second Year; and it is not till the third Year that they produce Flowers: therefore if the Plants are not too thick in the Seed-bed, they may be permitted to remain there till after their Flowers are past; and in October remove them to the Places where they are designed to grow.

The eighth, eleventh, twelfth, and thirteenth Sorts are Natives of the warm Parts of America; so will not live abroad in England: these must be kept in Pots, and housed in Winter; and if in cold dark Weather they are not placed in a moderate Warmth, they are very subject to mould with the Damp; which will cause their Stems to decay. The eighth Sort is a climbing Plant;

so should be supported by Stakes; and will grow to the Height of seven or eight Feet.

The twelfth Sort grows to be a large Shrub: the Leaves of this are as large as those of the Mulberry-tree; and the Tufts of Flowers being large, and produced at the Ends of the Shoots, make a fine Appearance when they are in Flower; but unless this is placed in a moderate Stove, it will not thrive.

The seven first Sorts are Plants of no great Beauty; so are rarely preserved but in Botanic Gardens.

The ninth, twelfth, and thirteenth Sorts may be propagated by Cuttings during the Summer-season; which should be planted in Pots filled with fresh light Earth, and plunged into a moderate Hot-bed; where they should be shaded and watered until they have taken Root, when they may be exposed to the open Air by degrees. These Plants may be placed in the open Air in Summer, amongst other hardy Exotic Plants; but in Winter they should be placed in a good Green-house, observing to let them have the free Air in mild Weather; and they must be frequently refreshed with Water. With this Management these Plants will flower every Year; and may be allowed a Place in such Gardens where other Exotic Plants are preserved.

EUPHORBIA, The Burning Thorny-plant.

The Characters are;

The Empalement of the Flower is of one Leaf, and is divided at the Brim into four or five Parts: the Flower has, for the most part, four thick truncated Petals, which are deeply indented: in the Centre of the Flower is situated the Pointal, which is attended by many Stamina: the Pointal afterward changes to a round-

ish Fruit having three Cells, each containing one roundish Seed.

This Genus of Plants has been titled *Euphorbium*, which is the Name of the Gum used in Medicine; but as *Pliny* has given the Plant the Title of *Euphorbia*, to distinguish it from the Drug, *Dr. Linnaeus* has adopted the same Name; and added, to this Genus, all the Species of Spurge, from the Agreement there is in the essential Characters of those two Genera. We have no good *English* Name for this Genus; that of the Burning Thorny-plant having been used by *Parkinson*, I have placed here: but as the *Latin* Name is now more commonly used by the Gardeners, I shall continue it.

The Species are;

1. EUPHORBIA *aculeata triangularis subnuda articulata, ramis patentibus.* *Lin. Hort. Cliff.* Prickly triangular jointed Euphorbia, with spreading Branches, commonly call'd the true *Euphorbium* of the Antients.

2. EUPHORBIA *aculeata quadrangularis nuda.* *Lin. Hort. Cliff.* Naked quadrangular prickly Euphorbia, commonly called the *Canary Euphorbium*.

3. EUPHORBIA *aculeata nuda triangularis articulata, ramis erectis.* Thorny jointed triangular Euphorbia, with upright naked Branches.

4. EUPHORBIA *aculeata nuda multangularis, aculeis geminatis.* *Lin. Hort. Cliff.* Thorny Euphorbia, with many Angles, and the Spines growing by Pairs, commonly called the torch-shap'd Euphorbium.

5. EUPHORBIA *aculeata seminuda multangularis, aculeis geminatis.* *Lin. Hort. Cliff.* Thorny half-naked Euphorbia, with Angles oblique to the Knobs, commonly called the oleander-leav'd Euphorbium.

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6. *EUPHORBIA aculeata nuda, septem-angularis, spinis solitariis subulatis floriferis.* Lin. Hort. Cliff. Naked thorny Euphorbia, with long single Spines, producing Flowers at their Extremities.

7. *EUPHORBIA inermis testa tuberculis imbricatis, foliolo lineari instructis.* Lin. Hort. Cliff. Euphorbia without Thorns, and closely covered with Tubercles lying over each other, and narrow Leaves, commonly called *Medusa's Head*.

8. *EUPHORBIA humilis, ramis plurimis squamosis, floribus sessilibus.* Dwarf Euphorbia, with many scaly Branches, and the Flowers growing without Footstalks, commonly called the little *Medusa's Head*.

9. *EUPHORBIA humilis, ramis patulis tuberculatis,* Dwarf Euphorbia, with spreading Branches covered with Knobs.

10. *EUPHORBIA erecta nuda octangularis, spinis geminatis aduncis, floribus sessilibus.* Naked upright Euphorbia having eight Angles, armed with small crooked Spines by Pairs, and Flowers having no Footstalks.

11. *EUPHORBIA inermis fruticosa subnuda filiformis erecta, ramis patulis determinate confertis.* Lin. Hort. Cliff. Shrubby smooth Euphorbia, with slender Branches terminating in Clusters, commonly called *Indian Tree-spurge*.

12. *EUPHORBIA inermis fruticosa nuda filiformis volubilis, cicatricibus oppositis.* Hort. Cliff. Shrubby naked Euphorbia, with smooth climbing Branches, commonly called *Indian Climbing Spurge*.

13. *EUPHORBIA inermis fruticosa seminuda filiformis flaccida, foliis alternis.* Lin. Hort. Cliff. Smooth shrubby Euphorbia, with taper flaccid Branches, naked below, but upward beset with Leaves alter-

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nately, commonly called *Tree-spurge of Mauritania*.

14. *EUPHORBIA inermis, foliis oppositis lanceolatis, umbella universaliquadrifida tetraphylla, ulterioribus dichotomis.* Lin. Hort. Upsal. Smooth Euphorbia, with Leaves placed opposite, and the Flowers growing in a four-leav'd Umbel, and the Branches at the Top dividing into two, commonly called the *Great Garden-spurge*, or *Cataputia major*; and by some, *Esula major*, i. e. *Greater Spurge*.

15. *EUPHORBIA inermis, foliis confertis, superioribus reflexis, latioribus lanceolatis, umbella universalitrida, partialibus bifidis.* Lin. Hort. Cliff. The myrtle-leav'd *Spurge*, vulgo.

16. *EUPHORBIA inermis fruticosa, foliis lanceolatis integerrimis, floribus solitariis terminatricibus, involucris triphyllis.* Lin. Hort. Cliff. Smooth shrubby *Spurge*, with whole spear-shaped Leaves, and Flowers growing single in a three-leav'd Empalement at the End of the Branches; commonly called *Tree-spurge of Ragusa*.

17. *EUPHORBIA inermis, foliis lanceolatis, umbella universalimultifida, partialibus dichotomis, involucris semibifidis perfoliatis.* Lin. Hort. Cliff. Smooth Euphorbia, with spear-shaped Leaves, and the Cover of the greater Umbel being multifid, and the small Umbels having a bifid Cover surrounding the Stalks, commonly called the *Wood-spurge*.

18. *EUPHORBIA inermis, foliis lanceolatis, umbella universalimultifida polyphylla, partialibus trifidis, triphyllis propriis bifidis.* Lin. Hort. Cliff. Shrubby marsh *Spurge*, by some called *Esula minor*.

19. *EUPHORBIA inermis, foliis lanceolatis, involucro universaliquinquesido lanceolato, partiali tetraphyllo subretundo,*

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subrotundo, propriis diphyllis. Flor. Leyd. This is commonly called the willow-leav'd Eastern Spurge, with a purple Stalk, and a large Flower.

20. *EUPHORBIA inermis fruticosa seminuda erecta, umbella universalis pentaphylla oblonga, partialibus diphyllis subovatis. Lin. Hort. Cliff.* Smooth shrubby Spurge, with upright half-naked Stalks, and five oblong Leaves placed under the principal Umbel, and each of the separate Umbels having two oval Leaves.

21. *EUPHORBIA inermis, foliis ovalibus oppositis serratis uniformibus, ramis alternis, caule erecto. Lin. Hort. Cliff.* Smooth Spurge, with oval sawed Leaves placed opposite, the Branches growing alternate, and an upright Stalk.

22. *EUPHORBIA inermis, foliis denticulatis, caulinis lanceolatis, umbellularum cordatis. Lin. Hort. Cliff.* Smooth Spurge, with indented Leaves, those upon the Stalks being spear-shaped; but those under the Flowers are heart-shaped.

23. *EUPHORBIA inermis fruticosa, foliis caulinis lineari-lanceolatis incanis, umbellularum ovatis.* Shrubby Eastern Spurge, with narrow spear-shaped whitish Leaves upon the Stalks, and those under the Flowers are oval.

24. *EUPHORBIA inermis, foliis confertis linearibus, umbella universalis multifida, partialibus dichotomis, foliis subrotundis. Lin. Hort. Cliff.* Pine-leav'd Spurge, commonly called in the Shops *Esula minor*.

25. *EUPHORBIA inermis fruticosa, foliis lanceolatis, involucri universalis quinquefido, particulari trifido, reliquis bifidis. Flor. Lugd.* Smooth shrubby Spurge, with spear-shaped Leaves, and the Cover of the principal Umbel having five, and those of the other three Leaves.

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26. *EUPHORBIA inermis, foliis setaceo-linearibus confertis, umbella universalis multifida, partialibus ramose bifidis. Lin. Hort. Cliff.* The Sea-spurge.

27. *EUPHORBIA inermis, foliis oppositis oblique cordatis serratis uniformibus, ramis alternis, floribus solitariis. Lin. Hort. Cliff.* Low annual spreading Spurge, with heart-shaped saw'd Leaves, commonly called *Chamaesyce*.

The twelve Sorts which are first-mentioned are Natives of *Africa*: most of these are preserved in warm Stoves, for the singular Structure of the Plants, more than for their Beauty: these have been brought into *Europe* by the *Dutch*, and by them have been communicated to most of the curious Gardens in *Europe*. The five first, and the eleventh and twelfth Sorts are much tenderer than the others: these cannot be preserved thro' the Winter in *England*, unless they are placed in a Stove; nor should they be exposed abroad in Summer; for they are very subject to rot with much Moisture: therefore it is much the best Method to let these Plants remain in the House all the Summer, and open the Doors of the Stove every Day in good Weather, to allow them as much free Air as possible: with this Management, the Plants will thrive, and appear green; whereas, when they are placed abroad, they change their Colour, appear sickly, and make little Progress.

These Sorts are easily propagated by Cuttings, which should be cut from the old Plants in *June*: when these Cuttings are taken off, the milky Juice of the old Plants will flow out in plenty: therefore there should be some dry Earth or Sand applied upon the wounded Part, which will harden, and stop the Sap:
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and the wounded Part of the Cuttings should also be rubbed in Sand, or dry Earth, for the same Purpose: then the Cuttings should be laid in a dry Part of the Stove, for ten Days, or a Fortnight; and some of those whose Branches are large, and very succulent, may lie three Weeks or more before they are planted, that their Wounds may be healed and hardened, otherwise they will rot: when the Cuttings are planted, they should be each put into a small halfpeny Pot, laying Stones or Rubbish in the Bottom, and filling the Pots with light sandy Earth, not rich, but such as will let the Moisture pass off easily: then plunge the Pots into a moderate Hot-bed; and if the Weather is very hot, the Glasses of the Hot-bed should be shaded in the Middle of the Day; and the Cuttings should be gently watered twice a Week: in about six Weeks the Cuttings will have put out Roots; so, if the Bed is not very warm, the Plants may continue there, provided they have free Air admitted to them every Day, otherwise it will be better to remove them into the Stove, where they may be hardened before the Winter; for if they are too much drawn in Summer, they are very apt to decay in Winter, unless they are very carefully managed: during the Summer-season these Plants should be gently watered three or four times a Week, according to the Warmth of the Season; but in Winter they must not be watered oftener than twice a Week; and it should be given more sparingly at that Season, especially if the Stove is not warm: the first Sort will require more Warmth in the Winter than any of the other, as also less Water: this, if well managed, will grow to the Height of seven or eight Feet,

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and send out a great Number of Branches, which are commonly twisted, and grow very irregularly: these are armed on their Edges with black Spines, which come out by Pairs, and are crooked: and the whole Plant makes a very odd Appearance.

The second Sort grows in the *Canary Islands*; and I believe it is from this Sort that the *Euphorbium*, now used in the Shops, is taken: these Plants grow to the Height of large Shrubs, in their native Place: the Branches of this Sort are quadrangular, and come out on every Side the Stem horizontally; and afterward turn their Ends upward, so as in some measure to resemble a Chandelier: these Branches will spread five or six Feet each Way; so that when the Plants are large, they are very troublesome to remove or shift; for their Angles are armed with strong crooked Spines, which come out by Pairs: these will tear the Skin of Persons who handle them incautiously; and if the Plants are the least bruised, the milky Juice will immediately flow out, which is so caustic as to draw Blisters wherever it lodges upon a soft Place in the Flesh; and will burn Cloaths equal to *Aquafortis*: therefore there must be great Care taken, whenever these Plants are removed, not to injure them: this Sort is much hardier than the first; so may be placed in Winter in a moderate Warmth; but it is too tender to be preserved in a Green house without Fire.

The third Sort shoots out many Stems from the Bottom, and afterward divides into many Branches, so as to form a thick bushy Plant: these Branches are triangular, upright, and jointed, having dark Spines set on by Pairs on the Edges: this will grow five or six Feet high.

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The fourth Sort is in Shape somewhat like the Torch-thistle, having many obtuse Angles, which are armed with Spines: this puts out many Side-branches horizontally, which afterward turn upwards; so that when the Plants are large, they make a very odd Figure, the Branches coming out very irregular, and interfering with each other, unless they are cut off while young: this will grow to the Height of six or eight Feet; the Flowers are produced on the Angles toward the Upper-part of the Branches; and sometimes are succeeded by Fruit.

The fifth Sort may be easily trained up with an upright Stem, seven or eight Feet high; and toward the Upper part the Branches come out horizontally, which are garnished with broad Leaves on their Upper-part, which generally fall away in the Spring, and fresh Leaves are put out toward Autumn: this produces Flowers at the Extremity of the Branches.

The sixth Sort is at present the most rare in *England*: the Plants of this Sort, which have been procured from *Holland*, have been most of them destroyed by placing them in Stoves, where, by the Heat, they have in one Day turned black, and rotted immediately after: this Sort will live in a dry airy Glass case, with Ficoides, and other succulent Plants, where they may have free Air in mild Weather, and be protected from Frost: in Summer the Plants of this Sort may be exposed in the open Air, in a warm Situation.

With this Treatment, the Plants will thrive much better than when they are more tenderly nursed: this will grow three or four Feet high, and put out many lateral Branches: these have seven Angles,

and are strongly armed with long black Spines, which produce the Flowers toward their Extremity; the whole Plant has a very singular Appearance.

The seventh, eighth, ninth, and tenth Sorts are also pretty hardy; so will live in a good Glass-case in Winter without Fire, provided the Frost is kept intirely out; and in Summer they may be placed abroad in a warm Situation: as these are very succulent Plants, they should not have too much Wet; therefore, if the Summer should prove very moist, it will be very proper to place these Plants under some Shelter, where they may enjoy the free Air, but may be screened from the Rain; otherwise, by receiving too much Wet, they will rot.

The seventh Sort will require to be supported, otherwise the Weight of the Branches will draw them upon the Pots; and, by training of the Stems up to Stakes, they will grow four or five Feet high; and a great Number of Side-branches will be produced, which are generally contorted, and appear like a Number of Snakes issuing out of an Head; which gave occasion to the Name of *Medusa's Head*.

The eighth Sort is a very humble Plant, seldom rising above six Inches high; and sends out a great Number of irregular Branches, which spread over the Surface of the Pots, and are often so far extended as to hang down on the Side of the Pots: these Branches greatly resemble those of the seventh Sort, but are much smaller; and the Plant never rises in Height, so that it is undoubtedly different; tho' some Persons have supposed them the same.

The ninth Sort is also a very low Plant; the Branches of this also trail upon the Surface of the Pots like the

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the eighth; but the Branches of that are scaly, and of this are full of Protuberances; in which, as also in not forming so large and close an Head, it differs from that.

The tenth Sort is a slender Plant, having many Angles like the fourth; but it is not half so large: this produces lateral Branches, which grow irregular: the Angles are not deep, and the Spines on their Edges are small: this makes an upright Stem: the Flowers are produced on the Edges of the Angles, toward the Upper-part of the Branches.

The eleventh Sort will grow to the Height of sixteen or eighteen Feet, having a strong Stem; and produces a great Number of taper Branches, which grow very diffused toward the Upper-part of their Stems: these Shoots are garnished with small Leaves toward their Extremity, which soon fall off. I do not remember to have ever seen any Flowers on this Plant.

The twelfth Sort produces many slender taper Shoots, which twist round each other, or any neighbouring Plant; therefore this must be supported with a Stick, otherwise the Branches will fall to the Ground, and twist themselves round whatever Support is near them: this will grow seven or eight Feet high; but I do not remember to have seen it flower.

The thirteenth Sort has long slender Branches, which must be supported, otherwise they will trail upon the Ground: these Branches are garnished with oblong Leaves upward, which are produced alternately; but all the lower Part of the Branches is naked: this Sort must be sheltered from the Frost in the Winter; but may be placed in a Green-house with other hardy Exotic Plants, and set abroad in Summer.

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All the other Sorts have been ranged under the Genus of *Tithymalus*, or Spurge, by former Botanists; some of whom made the distinguishing Character of the *Euphorbium* to consist in its having naked Branches; and others have distinguished them by the outward Appearance of the Plants: these have ranged the oleander-leav'd under the Title of *Euphorbium*; tho' they made the Difference to be in its having no Leaves: indeed, all the *Euphorbia* have Leaves, when they are closely observed, tho' many of them are small, and soon fall off; therefore, as there is no essential Difference, they should be joined under one Genus.

The sixteenth and twenty-third Sorts will require to be protected from severe Frost; but they will endure the Cold of our ordinary Winters in the open Air, if they are planted in a dry Soil, and a sheltered Situation: these seldom produce good Seeds in *England*; but they may be easily propagated by Cuttings in the Spring: these flower in *April*; at which time they also will make a pretty Variety, especially the twenty-third Sort, whose Flowers are large, and have a dark-purple Spot in the Middle.

The twenty-first and twenty-seventh Sorts are annual Plants, whose Seeds have been brought from the *West Indies*; where, as also in the *East-Indies*, they are troublesome Weeds; but in this Country they must be raised on an Hot bed early in the Spring, and treated as the *Amaranthus*; otherwise they will not perfect their Seeds in *England*: the twenty-first Sort will grow about two Feet high; but the other spreads its Branches close upon the Ground; these are preserved as Curiosities,

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but they are Plants of no great Beauty.

The other Sorts are hardy enough to live in the open Air; and most of them, having creeping Roots, increase so fast as to become very troublesome Weeds; so that they are rarely admitted any-where but in Physic-gardens.

The fourteenth Sort is a biennial Plant, which propagates itself in Plenty, if the Seeds are permitted to scatter: this will grow three Feet high, with an upright Stem; the Leaves are large, and placed opposite: it is sometimes used in Medicine, under the Title of *Cataputia minor*.

The fifteenth Sort has trailing Branches, which lie upon the Ground, and spread about eight or ten Inches each Way from the Stem: these are closely beset with glaucous Leaves, which have a singular Appearance; so it is often allowed to have a Place in Gardens for the sake of Variety: it is an hardy Plant; but should be planted in a dry gravelly Soil, where the Seeds will scatter, and the Plants come up without any Care: these Plants seldom continue above two Years; but as the young Plants will supply their room, there will require no Trouble to propagate this Sort.

The seventeenth Sort grows plentifully in the Woods, in divers Parts of England; where, in the Spring of the Year, it makes a good Appearance, the Flowers appearing before any of the Leaves are out upon the Woods: this Sort grows about two Feet high, and branches out with many purple Stems. A few Plants of this Sort may be planted in Wilderness-quarters under Trees, where they will add to the Variety.

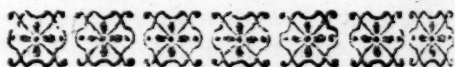
The eighteenth Sort is only preserved in Physic gardens, as it has been formerly used in Medicine, un-

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der the Title of *Efula major*; but, being at present left out of the College Dispensatory, is rarely to be found in England.

The twenty-fourth Sort was also used in Medicine by the Title of *Efula minor*; but this is also out of Use; and being a great Creeper at the Root, it is rarely permitted to have a Place in Gardens; and whenever it is, the Plants should be confined in Pots to keep them within Compass.

There are many other Sorts of Spurge than are here enumerated; but as many of them are Weeds in the Gardens, and arable Fields, and the others are Plants of no Beauty or Use, therefore I have omitted them, as few People choose to plant them in Gardens.



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F A B A, The Bean.

The Characters are;

It hath a papilionaceous Flower, which is succeeded by a long Pod, which is fill'd with large flat kidney-shaped Seeds: the Stalks are firm and hollow: the Leaves grow by Pairs, and are fastened to a Mid-rib.

The Species are;

1. *FABA major recentiorum.* Lob. Icon. The common Garden-bean.

2. *FABA minor, seu equina.* C. B. The Horse-bean.

There are a great Variety of the Garden-beans, now cultivated in the Kitchen gardens in England, which differ in Size and Shape; some of them producing their Pods much earlier than others; for which they are greatly esteemed by the Gardeners; but as all these Sorts are only seminal Variations, and are very sub-

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ject to degenerate, therefore new Seeds should be annually procured from abroad, where Persons are desirous to have them early. I shall here put down the Sorts which are usually cultivated, according to the Season of their ripening for the Table.

The *Mazagan* Bean is the first and best Sort of early Beans at present known: these are brought from a Settlement of the *Portuguese* on the Coast of *Africa*, just without the Streights of *Gibraltar*: the Seeds of this Sort are much smaller than those of the Horse-bean; and as the *Portuguese* are but slovenly Gardeners, there are commonly a great Number of bad Seeds among them. If this Sort is sown in *October*, under a warm Hedge, Pale, or Wall, and carefully earthed up when the Plants are advanced, they will be fit for the Table by the Beginning of *May*. The Stems of this Sort are very slender; therefore, if they are supported by Strings close to the Hedge or Pale, it will preserve them from the morning Frosts, which are sometimes severe in the Spring, and cause them to come forwarder than if this is neglected: these Beans bear plentifully, but they ripen nearly together; so that there are never more than two Gatherings from the same Plants: if the Seeds of this Sort are sowed two Years in *England*, the Beans will become much larger, and not ripen so soon; which is called a Degeneracy.

The next Sort is the early *Portugal* Bean, which appears to be the *Mazagan* Sort, sowed in *Portugal*; for it is very like to those which are the first Year sowed in *England*: this is the most common Sort used by the Gardeners for their first Crop; but they are not near so well tasted as

the *Mazagan*: therefore when the *Mazagan* Bean can be procured, no Person would plant the other.

The next is the small *Spanish* Bean: this will come in soon after the *Portugal* Sort, and is a sweeter Bean; therefore should be preferred to it.

Then comes the broad *Spanish*, which is a little later than the other; but comes in before the common Sorts, and is a good Bearer; therefore is frequently planted.

The *Sandwich* Bean comes soon after the *Spanish*; and is almost as large as the *Windfor* Bean; but, being hardier, is commonly sown a Month sooner: this is a plentiful Bearer.

The Toker Bean, as it is generally called, comes about the same time with the *Sandwich*, and is a great Bearer; therefore it is now much planted.

The white and black Blossom Beans are also by some Persons much esteemed: the Beans of the former are, when boiled, almost as green as Peas; and being a sweet Bean, renders it more valuable: these Sorts are very apt to degenerate, if their Seeds are not saved with great Care.

The *Windfor* Bean is allowed to be the best of all the Sorts for the Table: when these are planted on a good Soil, and are allowed sufficient room, their Pods will be very large, and in great Plenty; and when they are gathered young, are the sweetest and best tasted of all the Sorts: but these should be carefully saved, by pulling out such of the Plants as are not perfectly right; and afterward by sorting out all the good from the bad Beans.

This Sort of Bean is seldom planted before *Christmas*, because it will not bear the Frost so well as many of

of the other Sorts; so it is generally planted for the great Crop, to come in *June* and *July*.

All the early Beans are generally planted on warm Borders under Walls, Pales, and Hedges; and those which are design'd to come first are usually planted in a single Row pretty close to the Fence: and here I cannot help taking notice of a very bad Custom, which too generally prevails in Gentlemens Kitchen-gardens; which is that of planting Beans close to the Garden-walls, on the best Aspects, immediately before the Fruit-trees; which certainly is a greater Prejudice to the Trees, than the Value of the Beans, or any other early Crop; therefore this Practice should be every where discouraged; for it is much better to run some Reed-hedges across the Quarters of the Kitchen-garden, where early Beans and Peas may be planted; in which Places they may with more Conveniency be covered in severe Frost; and to these Hedges the Beans may be closely fastened, as they advance in their Growth; which, if practis'd against the Walls where good Fruit-trees are planted, will greatly prejudice the Trees, by overshadowing them; and the Growth of these Legumes will draw off the Nourishment from the Roots of the Trees; whereby they will be greatly weakened.

But to return to the Culture of the Beans; those which are planted early in *October* will come up by the Beginning of *November*; and as soon as they are two Inches above-ground, the Earth should be carefully drawn up with an Hoe to their Stems; and this must be two or three times repeated, as the Beans advance in Height: this will protect their Stems from the Frost, and encourage their Strength. If the Winter should prove

severe, it will be very proper to cover the Beans with Peas-haulm, Fern, or some other light Covering, which will secure them from the Injury of Frost; but this Covering must be constantly taken off in mild Weather, otherwise the Beans will draw up tall and weak, and come to little.

In the Spring, when the Beans are advanced to be a Foot high, they should be fastened up to the Hedge with a small Line, so as to draw them as close as possible; which will secure them from being injured by the morning Frosts; which are often so severe in *April*, as to lay those Beans flat on the Ground, which are not thus guarded: at this time all Suckers which come out from the Roots should be very carefully taken off; for these will retard the Growth of the Beans, and prevent their coming early: and when the Blossoms begin to open toward the Bottom of the Stalks, the Top of the Stems should be pinched off; which will cause those first Pods to stand, and thereby to bring them forward. If these Rules are observed; and the Ground kept clean from Weeds, or other Plants, there will be little Danger of their failing.

But lest this first Crop should be destroyed by Frost, it will be absolutely necessary to plant more about three Weeks after the first; and so to repeat planting more every three Weeks or a Month till *February*: but those which are planted toward the End of *November*, or the Beginning of *December*, may be planted on sloping Banks, at a Distance from the Hedges; for if the Weather is mild, these will not appear above-ground before *Christmas*; therefore will not be in so much Danger as the first and second Planting, which, by that time, will be a considerable Height. The same Directions which

are before given will be sufficient; but only it must be observed, that the larger Beans should be planted at a greater Distance than the small ones; as also, that those which are first planted must be put closer together, to allow for some miscarrying: therefore, where a single Row is planted, the Beans may be put two Inches asunder; and those of the third and fourth Planting may be allowed three Inches: and when they are planted in Rows, across a Bank, the Rows should be two Feet and an half asunder: but the *Wind* for Beans should have a Foot more Space between the Rows; and the Beans in the Rows should be planted five or six Inches asunder. This Distance may, by some Persons, be thought too great; but, from many Years Experience, I can affirm, that the same Space of Ground will produce a greater Quantity of Beans, when planted at this Distance, than if double the Quantity of Seeds are put on it. In the Management of these later Crops of Beans, the principal Care should be to keep them clear from Weeds, and any other Plants, which would draw away their Nourishment; to keep earthing them up; and, when they are in Blossom, to cut off their Tops; which, if suffered to grow, will draw the Nourishment from the lower Blossoms, which will prevent the Pods from setting; and so only the Upper-parts of the Stems will be fruitful: and another thing should be observed in planting of the succeeding Crops; which is, to make Choice of moist strong Land for the later Crops; for if they are planted on dry Ground, they rarely come to much.

These After-crops should be planted at about a Fortnight Distance from *February* to the Middle of *May*; after which time it is generally too

late to plant, unless the Land is very strong and moist; for in warm dry light Land all the late Crops of Beans are generally attacked by the black Insects, which cover all the Upper-part of their Stems, and soon cause them to decay.

Where the Seeds of these Beans are designed to be sowed, a sufficient Number of Rows should be set apart for that Purpose, according to the Quantity desired: these should be managed in the same Way as those which are designed for the Table; but none of the Beans should be gathered; though there are some covetous Persons, who will gather all the first ripe for the Table, and are contented to save the After-crop for Seed; but these are never so large and fair as the first; so that if these are for Sale, they will not bring near the Price as the other; therefore what is gained to the Table, is lost in the Value of the Seed.

When the Seed is ripe, the Stalks should be pulled up, and set upright against an Hedge to dry, observing to turn them every third Day, that they may dry equally: then they may be thresh'd out, and cleaned for Use, or otherwise stacked up in a Barn, till there is more Leisure for threshing them out; and afterward the Seed should be drawn over, to take out all those that are not fair, preserving the best for Use or Sale.

It is a very good Method to change the Seeds of all Sorts of Beans; and not to sow and save the Seeds long in the same Ground; for they do not succeed so well: therefore, if the Land is strong where they are to be planted, it will be the best Way to procure the Seeds from a lighter Ground, and so *vice versa*; and by this Method the Crops will be larger, and the Beans fairer, and not so liable to degenerate.

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Having given Directions for the Culture of the Garden-bean, I shall next proceed to that of the Horse-bean, which is cultivated in the Fields.

The Horse-bean delights in a strong moist Soil, and an open Exposure; for they never thrive well on dry warm Land, or in small Inclosures, where they are very subject to blight; and are frequently attacked by a black Insect, which the Farmers call the *Black Dolphin*: these Insects are often in such Quantities, as to cover the Stems of the Beans intirely, especially all the Upper-part of them; and whenever this happens, the Beans seldom come to good: but in the open Fields, where the Soil is strong, this rarely happens.

These Beans are usually sown on Land which is fresh broken up, because they are of Use to break and pulverize the Ground, as also to destroy Weeds; so that the Land is rendered much better for Corn, after a Crop of Beans, than it would have been before; especially if they are sown and managed according to the New Husbandry, with a Drill-plough, and the Horse-hoe, used to stir the Ground between the Rows of Beans, which will prevent the Growth of Weeds, and pulverize the Ground; whereby a much greater Crop of Beans may, with more Certainty, be expected; and the Land will be better prepared for whatever Crop it is designed after.

The Season for sowing of Beans is from the Middle of *February* to the End of *March*, according to the Nature of the Soil; the strongest and wet Land should always be last sown: the usual Quantity of Beans, sown on an Acre of Land, is about three Bushels; but this is more than double the Quantity which need be

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used, especially according to the New Husbandry: but I shall first set down the Practice according to the Old Husbandry; and then give Directions for their Management according to the New. The Method of sowing is after the Plough, in the Bottom of the Furrows; but then the Furrows should not be more than five, or, at most, six Inches deep. If the Land is new-broken up, it is usual to plow it early in Autumn, and let it lie in Ridges till after *Christmas*; then plow it in small Furrows, and lay the Ground smooth: these two Plowings will break the Ground fine enough for Beans; and the third Plowing is to sow the Beans, when the Furrows should be made shallow, as was before-mentioned.

Most People set their Beans too close; for, as some lay the Beans in the Furrows after the Plough, and others lay them before the Plough, and plow them in, so, by both Methods, the Beans are set as close as the Furrows are made, which is much too near; for when they are on strong good Land, they generally are drawn up to a very great Height; and are not so apt to pod as when they have more room, and are of lower Growth: therefore I am convinced by some late Trials, that the better Way is to make the Furrows two Feet asunder, or more; which will cause them to branch out into many Stalks, and bear in greater Plenty than when they are closer: by this Method less than half the Quantity of Beans will be sufficient for an Acre of Land; and by the Sun and Air being admitted between the Rows, the Beans will ripen much earlier, and more equally, than in the common Way.

What has been mentioned must be understood as relating to the Old Husbandry;

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Husbandry; but where Beans are planted according to the New, the Ground should be four times plowed before the Beans are set; which will break the Clods, and render it much better for planting: then with a Drill-plough, to which an Hopper is fixed, for setting of the Beans, the Drills should be made at three Feet asunder, and the Spring of the Hopper set so as to scatter the Beans at three Inches Distance in the Drills. By this Method less than one Bushel of Seed will plant an Acre of Land. When the Beans are up, if the Ground is stirred between the Rows with an Horse-plough, it will destroy all the young Weeds; and when the Beans are advanced about three or four Inches high, the Ground should be again plowed between the Rows, and the Earth laid up to the Beans; and if a third Plowing, at about five or six Weeks after, is given, the Ground will be kept clean from Weeds; and the Beans will stalk out, and produce a much greater Crop than in the common Way.

When the Beans are ripe, they are reaped with an Hook, as is usually practised for Peas; and after having lain a few Days on the Ground, they are turned; and this must be repeated several times, until they are dry enough to stack: but the best Method is to tie them in small Bundles, and set them upright; for then they will not be in so much Danger to suffer by Wet, as when they lie on the Ground; and they will be more handy to carry and stack, than if they are loose. The common Produce is from twenty to twenty-five Bushels on an Acre of Land.

The Beans should lie in the Mow to sweat, before they are threshed out; for as the Haulm is very large and succulent, so it is very apt to give, and grow moist: but there is

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no Danger of the Beans receiving Damage, if they are stacked tolerably dry, because the Pods will preserve the Beans from Injury; and they will be much easier to thresh, after they have sweat in the Mow, than before: and after they have once sweated, and are dry again, they never after give.

By the New Husbandry, the Produce has exceeded the Old by more than ten Bushels on an Acre; and if the Beans which are cultivated in the common Method are observed, it will be found, that more than half their Stems have no Beans on them; for, by standing close, they are drawn up very tall; so the Tops of the Stalks only produce, and all the lower Part is naked; whereas, in the New Method, they bear almost to the Ground; and as the Joints of the Stems are shorter, so the Beans grow closer together on the Stalks.

FABA ÆGYPTIA. *Vide* Arum Ægyptiacum.

FABA CRASSA. *Vide* Anacampleros.

FABAGO, Bean-caper.

The Characters are;

The Leaves are produced by Pairs upon the same Footstalk, which Footstalks grow opposite at the Joints of the Stalks: the Cup of the Flower consists of five Leaves: the Flowers also consist of five Leaves, which expand in form of a Rose, and have many Stamina, that surround the Style in the Centre of the Cup; which Style becomes a cylindrical Fruit, and is, for the most part, five-cornered, divided into five Cells, by intermediate Partitions, each of which contains many flat Seeds.

The Species are;

1. FABAGO Belgarum, five Peplus Parisiensium. Lugd. Bean-caper, vulgo.

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2. *FABAGO Africana arborescens*, flore sulphureo, fructu rotundo. Com. Rar. African Tree Bean-caper, with a sulphur-colour'd Flower, and a round Fruit.

3. *FABAGO Africana frutescens*, folio latiori, fructu tetragono. African shrubby Bean-caper, with broader Leaves, and a four-cornered Fruit.

The first of these Plants is pretty hardy, and will endure the Cold of our Winters in the open Air, provided it be planted in a dry Soil, and a warm Situation: this is propagated by sowing the Seeds in the Spring, either on a warm Border, or a moderate Hot-bed; and when the Plants are come up, they may be planted into Pots filled with light sandy Earth, or in warm Borders under Walls or Hedges of the like Soil; for they do not care for a rich-dung'd Soil, nor a strong or moist Earth. The Distance these Plants should be planted at, must not be less than two Feet each Way; for they grow to be very large, and form a strong Head: the Branches die away every Winter to the Head, and shoot again the succeeding Spring, and will produce great Plenty of Flowers and Seeds annually, and their Roots will abide many Years; but are very apt to die, if removed after they are grown large.

This Plant is of no Use at present in England; but for the Variety of its Flowers deserves a Place in good Gardens, where there is room.

The other two Sorts, being Natives of a warm Country, will not endure the Cold of our Climate abroad, but must be preserved in a Green-house: they may be propagated by sowing their Seeds upon an Hot-bed in the Spring; and when the Plants come up, they should be planted into Pots filled with fresh sandy Earth, and may be exposed,

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during the Summer, with other Green-house Plants; but in Winter should be placed in an airy Part of the House, and must not be crowded with other Plants; which will cause them to mould, and shed their Leaves, and many times destroy the whole Plant: they should also have frequent Refreshings with Water; but should not have too much at a time; for that very often destroys these Plants.

They may also be increased by planting Cuttings in any of the Summer-months into Pots of light Earth, which should be plunged into a moderate Hot-bed, to facilitate their Rooting, observing to shade them from the Violence of the Sun, as also to give them Water frequently. When they are rooted, which will be in about two Months after planting, they may then be transplanted into separate Pots filled with the same light Earth; and should be exposed to the open Air by degrees, and afterwards may be treated as was before directed for those raised from Seeds.

These Plants were originally brought from the *Cape of Good Hope*; but have been many Years preserved in the Gardens of the Curious. They grow to the Height of five or six Feet, and send forth many Side-branches; so that they become large Shrubs, and make a pretty Variety among other Exotic Plants. If these are placed in an airy Glass-case in Winter, where they may have free Air in mild Weather, and protected from the Frost, they will thrive better than in a common Green-house.

FAGONIA. This Plant was so named by Dr. *Tournefort*, in Honour to Dr. *Fagon*, who was Superintendent of the Royal Garden at Paris.

The Characters are;

The Flower consists of many Leaves, which

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which are placed orbicularly, and expand in form of a Rose: out of whose Centre rises the Pointal, which afterward becomes a chanelled round-pointed Fruit, consisting of many Cells, and composed of many Husks, each containing one roundish Seed.

The Species are;

1. FAGONIA *Cretica spinosa*. Tourn. Thorny Trefoil of Candy.

2. FAGONIA *Hispanica non spinosa*. Tourn. Spanish Fagonia without Thorns.

The first Sort is a Native of the Island of Candia: this has been described by some Botanists under the Title of *Trifolium spinosum Creticum*, which occasioned my giving it the English Name of Thorny Trefoil of Crete; though there is no other Affinity between this and the Trefoil, than that of this having three Leaves or Lobes, on the same Footstalk.

This is a low Plant, which spreads its Branches close to the Ground, which are extended to a considerable Distance. The Flowers are of a purple Colour; and in their Form greatly resemble those of the Bean-caper: these are produced at the Division of the Branches singly: after the Flower is past, there is a pointed five-cornered Fruit succeeds.

This Plant is propagated by Seeds, which should be sown upon a Border of fresh light Earth, where the Plants are designed to remain; for they do not bear transplanting well: when the Plants come up, they may be thinned out to the Distance of eight or ten Inches; and if they are kept clean from Weeds, they will require no other Care.

If the Seeds are sown the Beginning of April, in a warm Situation, the Plants will flower in July, and the Seeds ripen in September; but if

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the Seeds are sown in Autumn, in a warm Border, the Plants will live through the Winter: and these will come so early to flower, that there will be no Danger of the Seeds being ripe; and when the Summer proves cold, those which are sown in the Spring very often fail to produce ripe Seeds.

The second Sort is a Native of Spain, and differs from the first in having no Thorns, and it grows a little more erect; in other respects it is very like to it.

FAGOPYRUM, Buck-wheat.

The Characters are;

The Flowers are specious, growing in a Spike, or branch'd from the Wings of the Leaves: the Cup of the Flower is divided into five Parts, which resemble the Petals of a Flower: the Seeds are black, and three-corner'd.

The Species are;

1. FAGOPYRUM *vulgare erectum*. Tourn. Common upright Buck-wheat.

2. FAGOPYRUM *vulgare scandens*. Tourn. Common creeping Buck-wheat.

The first of these Plants is cultivated in many Parts of England, and is a great Improvement to dry barren Lands. The best Season for sowing it is in May: one Bushel will sow an Acre. The Ground should be plowed and dressed in the same manner as for Barley; and if the Soil is not very lean, it will yield a very great Increase, as fifty or sixty Bushels upon an Acre, and is excellent Food for Hogs, Poultry, &c. The Flour of it is very white, and makes a very good Sort of Pancake, if mixed with a little Wheat-flour. The Straw is good Fodder for Cattle; and the Grain, given to Horses amongst their Oats, will make them

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thrive; but it must be broken in a Mill, otherwise it is apt to pass thro' the Cattle whole.

It is commonly late in the Season before it is ripe; but there is no great Danger of the Seeds falling, nor of suffering by Wet after it is mown: it must lie several Days to dry, that the Stalks (which are hard) may wither before it is hous'd.

Buck-wheat is sometimes sown very thick, and suffer'd to grow until it is near flowering, and is then plowed in, which makes a good Lay for Wheat or Rye: but some People esteem it the better way to feed Cattle with it; especially Milch-cows, which, they say, will cause them to give a great deal of Milk, and make both the Butter and Cheese very good. This will also afford Food for Cattle in the driest time, when all other Grass is burnt up.

The second Sort is found wild in divers Parts of England; but is never cultivated in Gardens.

FAGUS, The Beach-tree.

The Characters are;

It hath Leaves somewhat resembling those of the Horn beam: the Male Flowers grow together in a round Bunch, and are produced at remote Distances from the Fruit on the same Tree: the Fruit consists of two or three triangular Nuts, which are inclosed in a rough hairy Rind, divided into four Parts.

The Species are;

1. FAGUS. Dod. The Beach-tree.

2. FAGUS *foliis ex luteo variegatis*. The yellow-strip'd Beach-tree.

3. FAGUS *foliis ex albo variegatis*. The white-strip'd Beach-tree.

There is but one Species of this Tree at present known (except the two Varieties with strip'd Leaves, which are accidental), though the Planters would distinguish two or

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Sorts, one of which they call the Mountain Beach; and, as they say, affords a much whiter Timber than the other, which they call the Wild Beach: but as these have never been distinguished by the Botanists, nor can I perceive any real Difference amongst all the Trees of this Kind I have yet seen, I rather think the Difference in the Colour of the Wood is occasioned by the Places of their Growth; which is often observed to be the Case with most other Sorts of Timber.

This Tree is propagated by sowing the Mast; the Season for which is any time from October to February, only observing to secure the Seeds from Vermin when early sown; which if carefully done, the sooner they are sown the better, after they are fully ripe: a small Spot of Ground will be sufficient for raising a great Number of these Trees from Seed; but you must be very careful to keep them clear from Weeds; and if the Plants come up very thick, you should not fail to draw out the strongest of them the Autumn following, that those left may have room to grow: so that if you husband a Seed-bed carefully, it will afford a three Years Draught of young Plants; which should be planted in a Nursery; and, if designed for Timber-trees, at three Feet Distance Row from Row, and eighteen Inches asunder in the Rows.

But if they are designed for Hedges (to which the Tree is very well adapted), the Distance need not be so great; two Feet Row from Row, and one Foot in the Rows, will be sufficient. In this Nursery they may remain two or three Years, observing to clear them from Weeds, as also to dig up the Ground between the Roots, at least once a Year, that their tender Roots may the better extend

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extend themselves each Way: but be careful not to cut or bruise their Roots, which is injurious to all young Trees; and never dig the Ground in Summer, when the Earth is hot and dry; which, by letting in the Rays of the Sun to the Roots, is often the Destruction of young Trees.

This Tree will grow to a considerable Stature, though the Soil be stony and barren, as also, upon the Declivities of Hills, and chalky Mountains, where they will resist the Winds better than most other Trees; but then the Nurseries for the young Plants ought to be upon the same Soil; for if they are raised in a good Soil, and a warm Exposure, and afterwards transplanted into a bleak barren Situation, they seldom thrive, which holds true in most other Trees: therefore I would advise the Nursery to be made upon the same Soil where the Plantation is intended: but of this I shall say more under the Article of *Nursery*.

The Tree is very proper to form large Hedges to surround Plantations, or large Wilderness-quarters; and may be kept in a regular Figure, if sheared twice a Year, especially if they shoot strong; in which Case, if they are neglected but a Season or two, it will be difficult to reduce them again. The Shade of this Tree is very injurious to most Sorts of Plants which grow near it; but is generally believed to be very salubrious to human Bodies.

The Timber is of great Use to Turners for making Trenchers, Dishes, Trays, Buckets; and likewise to the Joiner for Stools, Bedsteads, Coffers, &c. The Mast is very good to fat Swine and Deer; it also affords a sweet Oil, and hath in some Famines supported Men with Bread.

This Tree delights in a chalky or

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stony Ground, where it generally grows very fast; and the Bark of the Trees, in such Land, is clear and smooth; and although the Timber is not so valuable, as that of many other Trees, yet as it will thrive on such Soils, and in such Situations, where few better Trees will grow, the Planting of them should be encouraged; especially as the Trees afford an agreeable Shade; and the Leaves make a fine Appearance in Summer, and continue green as long in Autumn as any of the deciduous Trees: therefore in Parks, and other Plantations for Pleasure, this Tree deserves to be cultivated among those of the first Class; especially where the Soil is adapted to it.

The two Sorts with variegated Leaves may be propagated by budding or grafting them upon the common Beach, observing not to plant them in a good Earth; which will cause the Buds or Cyons to shoot vigorously, whereby the Leaves will become plain; which often happens to most variegated Plants.

FEATHERFEW or FEAVERFEW. *Vide Matricaria.*

FENEL. *Vide Foeniculum.*

FENEL-FLOWER. *Vide Nigella.*

FERRUM EQUINUM, Horseshoe-vetch.

The Characters are;

It hath a papilionaceous Flower, which is succeeded by a flat Pod, distinguished into Joints resembling an Half-moon, or an Horseshoe, containing Seeds of the same Form.

The Species are;

1. FERRUM EQUINUM *siliqua singulari*. C. B. Horseshoe-vetch with a single Pod.

2. FERRUM EQUINUM *siliqua multiplici*. C. B. Horseshoe-vetch with many Pods.

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3. *FERRUM EQUINUM Germanicum, siliquis in summitate.* C.B. Common Horsehoe-vetch.

There are some other Varieties of this Plant, which are preserved in curious Botanic Gardens; but it is rare that any of them are propagated, except for Variety-sake, they having no great Beauty. The two first Species are brought from Abroad; but the third Sort grows wild upon chalky Hills in divers Parts of England.

They may be propagated by sowing their Seeds in March upon a dry Soil, in the Places where they are to remain; for they do not well bear transplanting. The Distance they should be allowed, ought to be at least a Foot from each other; for they spread upon the Ground, and will cover that Space. These produce their Flowers in June, and perfect their Seeds in August and September.

FERULA, Fenel-giant.

The Characters are;

It hath a large succulent milky Root: the Stalks are spongy, and filled with Pith: the Flowers consist of many Leaves, which expand in form of a Rose, and grow in an Umbel: each Flower is succeeded by two large oval-shap'd flat Seeds, which are very thin, and, for the most part, turn black when they are ripe: to which may be added, The Leaves are like those of Fenel.

The Species are;

1. *FERULA major, seu fœmina Plinii.* M. Umb. Pliny's Female Fenel-giant.

2. *FERULA galbanifera.* Lob. Obs. Broad-leav'd Fenel-giant.

3. *FERULA Tingitana, folio latissimo lucido.* H. Edin. Broad-leav'd shining Fenel-giant from Tangier.

4. *FERULA Tingitana, folio an-*

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gusto lucido. H. L. Narrow-leav'd Fenel-giant from Tangier.

5. *FERULA tenuiore folio.* Narrow-leav'd Fenel-giant.

6. *FERULA Africana galbanifera, folio & facie ligustici.* Par. Bat. African Fenel-giant, with the Face and Leaf of Lovage.

7. *FERULA Africana galbanifera, folio myrrhidis.* H. Amst. African Fenel-giant, with a Sefeli-leaf.

There are several other Varieties of this Plant, which are preserved in curious Botanic Gardens; but as they are of no great Use or Beauty, I shall pass them over in this Place.

The first of these Plants is pretty common in the English Gardens: this, if planted in a good Soil, will grow to the Height of ten or twelve Feet, and more, and divides into many Branches; therefore should have a great deal of room: for if it be planted too near to other Plants, it will over-bear and destroy them. It dies to the Surface every Autumn, and rises again the succeeding Spring. The Flowers are produced in June, and the Seeds are ripe in September.

Mr. Ray says, That the People of Sicily use the Pith of this Plant for Tinder to light their Fires. And if this was practised by the Antients, we may easily guess why the Poets feigned, that Prometheus stole Fire from Heaven, and carried it to the Earth in an hollow Ferula.

The second, sixth, and seventh Sorts are supposed by some Authors to afford Galbanum; which, they say, is an Exudation from some of these Plants: but this at present is not determined; for, if any of the three, the seventh is thought to be the best.

These Plants are all very hardy, except the sixth and seventh Sorts; which,

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which, being Natives of a warm Country, will require to be housed in Winter. They are all propagated by sowing their Seeds, which should be done soon after they are ripe; for if they are kept until Spring, they seldom grow until the following Spring: they must be sown very early, and in a shady Situation, otherwise the Seeds are subject to miscarry. They delight in a light moist Soil, and must be planted at least two Feet and an half asunder; for they spread very far. The Roots will abide many Years, if suffered to remain undisturbed: but if they are transplanted when old, they seldom thrive well afterwards. These being Plants only for Curiosity, one of each Sort is sufficient for a Garden; since they are of no great Beauty, and require much room.

The sixth and seventh Sorts should be sown soon after the Seeds are ripe, in a Pot of good Earth; which should be placed under an Hot-bed-frame during the Winter-season, to preserve it from the Frosts: and when the Plants are come up in the Spring, they should be transplanted each into a separate Pot, and may be exposed in Summer; but in Winter should be defended from Frosts. They must be shifted into larger Pots, as they increase in Bulk. The best Season for removing them is in September, before they are housed. They require frequent Waterings, and to have as much Air as possible in mild Weather.

FICOIDES, Fig-marigold.

The Name of this Genus has been altered to that of *Mesembrianthemum*, which has been given to it by some of the German Botanists; and of late has been more generally used, since the Disuse of compound Names; but as this Name has not, nor is likely to prevail among the Garden-

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ers, I choose to continue the old Title of *Ficoides*, by which these Plants are well known in the *English* Gardens; especially as the other is not a very proper one for including all the Species; for the Name signifies a Flower expanding at Noon; and as many Species of this Genus are night-flowering, this is an improper Title for those.

The Characters are;

The whole Plant is succulent, and has the Appearance of Houseleek: the Leaves grow opposite by Pairs: the Cup of the Flower is fleshy, and divided into five Parts almost to the Bottom: the Flower consists of many Leaves, which are divided into small Parts, and expand in form of a Marigold: the Flower is succeeded by a succulent Fruit, which is divided into five or more Cells, which are full of small Seeds.

The Species are;

1. FICOIDES seu *Ficus aizoides Africana major procumbens, triangulari folio ensiformi*. H. L. Boerb. Ind. Great trailing African Ficoides, with a triangular sword-shaped Leaf.

2. FICOIDES seu *Ficus aizoides Africana major procumbens, triangulari folio, fructu maximo eduli*. *Ficus Hottentottorum*, vulgo. H. L. Great trailing African Ficoides, with a triangular sword-shap'd Leaf, and a large eatable Fruit; commonly call'd, the Hottentot Fig.

3. FICOIDES *Afra, caule lignoso, erecta, folio triangulari ensiformi scabro, flore luteo magno*. Boerb. Ind. Upright African Ficoides, with a woody Stalk, and a triangular rough sword-shap'd Leaf, and a large yellow Flower.

4. FICOIDES *Afra arborescens erecta, folio triangulari longissimo confertim nato purpurascens, flore luteo magno*. Boerb. Ind. Upright tree-like African Ficoides, with a long

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long triangular Leaf, and a large yellow Flower, commonly call'd Pink-leav'd Ficoides.

5. FICOIDES *Afra*, folio triangulari ensiformi glauco crasso, ad margines laterales paucis inermibus spinis aculeato, flore in longo pedunculo aureo. Boerb. Ind. African Ficoides, with a thick triangular sword-shap'd Leaf, arm'd with Spines on the Edges, and a yellow Flower growing upon a long Footstalk, commonly call'd, the Dog's-chap Ficoides.

6. FICOIDES *Afra*, folio triangulari ensiformi crasso brevi, ad margines laterales multis majoribusque spinis aculeato, flore aureo ex calyce longissimo. Boerb. Ind. African Ficoides, with a triangular sword-shap'd Leaf, having many large Spines upon their Edges, and a yellow Flower with a long Calyx, commonly called, the prickly Dog's-chap Ficoides.

7. FICOIDES *Afra*, folio triangulari securis forma, flore aureo stellato. Boerb. Ind. African Ficoides, with a triangular hatchet-shap'd Leaf, and a yellow starry Flower, commonly call'd, the Stag's-horn Ficoides. This Sort expands its Flowers only in the Evening.

8. FICOIDES *Afra*, folio triangulari longo, marginis inferioris supremo aculeato, flore violaceo. Boerb. Ind. African Ficoides, with a long triangular Leaf, having Spines at the Extremity on the Under-part of the Leaves, and a violet-colour'd Flower, commonly call'd, the Daify-flowered Ficoides.

9. FICOIDES *Africana frutescens perfoliata*, folio triangulari glauco punctato, cortice lignoso candido tenui. T. Ac. Reg. Shrubby African Ficoides, with perfoliated triangular glaucous Leaves, and a slender white lignous Bark, commonly call'd, the lesser horned Ficoides.

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10. FICOIDES *Afra*, folio triangulari glauco perfoliato brevissimo, apice spinoso. Boerb. Ind. flore purpureo. African Ficoides, with a triangular short perfoliate glaucous Leaf, having Spines upon the Top, and a purple Flower, commonly call'd, the large-horn'd Ficoides.

11. FICOIDES *Africana*, aculeis longissimis & foliatis nascentibus ex alis foliorum. Tourn. Ac. Reg. African Ficoides, with long Spines growing from the Wings of the Leaves.

12. FICOIDES *Afra*, folio triangulari ensiformi brevissimo, flore dilute purpurascente filamentoso. Boerb. Ind. African Ficoides, with a short triangular sword-shap'd Leaf, and a purplish-colour'd Flower.

13. FICOIDES seu *Ficus aizoides Africana*, folio triangulari crasso glauco brevi, ad tres margines aculeato. Boerb. Ind. flore purpurascens. African Ficoides, with a short-thick glaucous triangular Leaf, with three Spines on the Edges, and a purplish Flower.

14. FICOIDES *Afra*, folio triangulari glauco brevissimo crassissimo, margine non spinoso. Boerb. Ind. flore purpurascens. African Ficoides, with a very short thick triangular glaucous Leaf, without Spines on the Edge, and a purplish-colour'd Flower.

15. FICOIDES *Afra*, folio triangulari glauco brevissimo crassissimo, margine spinoso, caule & flore purpureo. African Ficoides, with a very short thick glaucous Leaf, with Spines upon the Edge, and a purple Stalk and Flower.

16. FICOIDES *Afra fruticans*, folio triangulari scabro tenui, flore violaceo. Boerb. Ind. African shrubby Ficoides, with a triangular rough narrow Leaf, and a violet-colour'd Flower.

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17. *FICOIDES Afra, folio triangulari viridi longo aspero, flore violaceo.* Boerb. Ind. African Ficoides, with a long green rough triangular Leaf, and a violet-coloured Flower.

18. *FICOIDES Afra, folio triangulari crasso succulentissimo.* Boerb. Ind. flore aureo. African Ficoides, with a thick succulent triangular Leaf, and a yellow Flower.

19. *FICOIDES Afra, folio triangulari longo succulento, caulibus rubris.* Boerb. Ind. flore luteo. African Ficoides, with a long succulent triangular Leaf, red Stalks, and a yellow Flower.

20. *FICOIDES seu Ficus aizoides Africana erecta arborescens lignosa, flore radiato, primo purpureo, dein argenteo, interdiu clauso, noctu aperto.* Boerb. Ind. African upright tree-like Ficoides, with a radiated Flower, first of a purple, and afterwards a silver Colour, opening in the Night, but closed in the Day.

21. *FICOIDES Afra arborescens, folio tereti, flore candido, noctu aperto, interdiu clauso.* Boerb. Ind. African tree-like Ficoides, with a taper Leaf, and white Flower, opening in the Night, but shut in the Day.

22. *FICOIDES Afra arborescens, folio tereti glauco, apice purpureo crasso.* Boerb. Ind. flore violaceo. African tree-like Ficoides, with a thick taper glaucous Leaf, tipped with Purple, and a violet-coloured Flower.

23. *FICOIDES Afra, folio tereti, procumbens, flore coccineo.* H. L. African trailing Ficoides, with a taper Leaf, and a scarlet Flower.

24. *FICOIDES seu Ficus aizoides Africana, folio longo tenui, flore aurantio.* Boerb. Ind. African Ficoides, with a long narrow Leaf, and an orange-coloured Flower.

25. *FICOIDES Afra fruticosa, caule lanuginoso, folio tereti parvo*

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brevi guttato, flore violaceo. Ind. African shrubby Ficoides, with a woolly Stalk, a small taper spotted Leaf, and violet-coloured Flower.

26. *FICOIDES Afra fruticosa, caule lanugine argentea ornato, folio tereti parvo longo, guttulis argenteis quasi scabro, flore violaceo.* Boerb. Ind. African shrubby Ficoides, with a white woolly Stalk, a long taper silver-spotted rough Leaf, and a violet-coloured Flower.

27. *FICOIDES seu Ficus aizoides Africana, folio variegato aspero, ad apicem stella spinosa ornato, flore violaceo.* Boerb. Ind. African Ficoides, with a rough party-colour'd Leaf, tipped with a Star of Spines, and a violet-coloured Flower.

28. *FICOIDES Afra lignosa, folio tereti aspero, ad apicem stella spinosa, flore violaceo.* African woody Ficoides, with a taper rough Leaf, tipped with a Star of Spines, and a violet-coloured Flower.

29. *FICOIDES seu Ficus aizoides Africana erecta, tereti folio, floribus albis umbellatis.* Par. Bat. Upright African Ficoides, with a taper Leaf, and white Flowers growing in an Umbel.

30. *FICOIDES folio tereti, caule viridi ramosissimo, flore parvo candido.* African Ficoides, with a taper Leaf, a green branching Stalk, and a small white Flower.

31. *FICOIDES Africana, folio tereti longo tenui, guttulis argenteis, flore parvo purpurascens, radice crassissima.* African Ficoides, with a long taper Leaf spotted with white, a small purplish Flower, and a thick knobbed Root.

32. *FICOIDES Africana humilis, folio tereti crasso succulento, flore sulphureo, pedunculo brevi.* Dwarf African Ficoides, with a thick taper succulent Leaf, and a sulphur-colour'd

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lour'd Flower, with a short Footstalk, commonly call'd the Quilled-leav'd Ficoides.

33. *FICOIDES Africana procumbens, folio tereti longo, flore violaceo.* African trailing Ficoides, with a long taper Leaf, and a violet-colour'd Flower.

34. *FICOIDES Afra acaulos, foliis latissimis crassis lucidis conjugatis, flore aureo amplissimo.* Tourn. Ac. Reg. African Ficoides without Stalks, and with broad thick shining Leaves, growing by Pairs, and a large yellow Flower.

35. *FICOIDES Afra acaulos, foliis latissimis crassissimis lucidis conjugatis, flore aureo amplo, sine pedunculo.* Boerb. Ind. African Ficoides without Stalks, and broad thick shining Leaves growing by Pairs, and a large yellow Flower without Footstalks.

36. *FICOIDES Afra, foliis latissimis crassis lucidis cruciatim positis.* Boerb. Ind. African Ficoides, with broad thick Leaves growing cross-wise.

37. *FICOIDES Africana procumbens, foliis latis crassis cruciatim positis, flore albo, medio purpurascente.* African trailing Ficoides, with broad thick Leaves growing cross-wise, and a white Flower, with a purplish Middle.

38. *FICOIDES Africana procumbens, foliis latis conjugatis, flore candido.* African trailing Ficoides, with broad Leaves growing by Pairs, and a white Flower.

39. *FICOIDES Africana, folio plantaginis undulato, micis argenteis adperso.* Tourn. Ac. Reg. African Ficoides, with a wav'd Plantain-leaf cover'd with Silver Drops, commonly call'd the Diamond Ficoides.

40. *FICOIDES Neapolitana, flore candido.* H. L. Neapolitan Ficoides, with a white Flower, commonly call'd Egyptian Kali.

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41. *FICOIDES seu Ficus aizoides Africana, folio viridi, micis quasi glaciatis splendentibus ornato, flore coccineo.* Boerb. Ind. 1. African Ficoides, with green Leaves beset with shining glass-like Drops, and a scarlet Flower.

There are some other Sorts of this Plant in the Botanic Gardens abroad; but these here mentioned are what we have, at present, in the English Gardens.

These are all abiding Plants (except the thirty-ninth and fortieth Sorts, which are annual); and may be propagated by planting Cuttings either in June or July; observing to let them lie two or three Days, or more, in a dry Place after they are cut off from the Plants, before they are planted, according as they are more or less succulent: the Sorts that are woody, need only to be planted upon an old Hot-bed, shading and watering them according to the Heat and Drought of the Season; but the succulent Kinds should be planted in Pots filled with light sandy fresh Earth, and should be plunged into a moderate Hot-bed, to facilitate their taking Root; and these should have but little Moisture, especially before they are rooted, for much Wet will certainly destroy them.

When the Plants have taken Root, which will be in about a Month's time, you should expose them to the open Air gradually: those which were planted in Pots, may be drawn out of the Hot-bed at first, and removed into a Glass-stove, where they may be enured, by degrees, to bear the Weather: but those planted upon the old Hot-bed may remain unremoved until August; when they should be carefully taken up, and planted into Pots filled with light fresh sandy Earth, and set in a Situation where they may enjoy the morning

morning Sun only, until they have taken fresh Root; when they may be exposed to the open Air until the latter End of *September*, or the Beginning of *October*; at which time they must be removed into the Conservatory, which should be a light airy Glass-case, so built and contrived as to admit of a large Portion of free Air whenever the Weather is mild; but, in hard frosty Weather, the Cold may be excluded. The Structure of this will be described under the Article *Stove*.

During the Winter-season you must carefully observe to open the Glasses every Day, when the Weather is mild; for if you keep them closely shut up, the Plants will grow sickly, and drop their Leaves. You must also observe to pick off all decayed Leaves as often as they appear, which, if suffered to remain upon the Plants, would communicate a Distemper to them, and be very apt to rot them. You should also give them frequent Waterings in mild Weather, especially such of them as are woody: but do not give them too much at once; for when the Earth, in Pots which are placed in the House, is too much saturated with Moisture, it will not dry again during the Winter season, for want of the Benefit of the Sun and Air, which are the two great Instruments in dissipating Humidity; and this is often the intire Destruction of the Plant: whilst, on the other hand, some People, out of too great Care to these Plants, let them suffer for want of Water and free Air in Winter, under a Notion of their being so very tender, as to be impatient of the least Cold or Moisture: whereas, in fact, they are very hardy, and are seldom destroyed with less Cold than hard Frost; for I have had some Sorts endure the open Air in a warm

Border for two or three Winters which proved mild; and such of these Plants as had thus endured the Cold, produced a much greater Quantity of Flowers, than those which had been preserved in a Stove with great Care: and it hath been chiefly owing to our managing them tenderly in Winter, that we annually lost so many of them; for since I have treated them in a different manner, I have rarely lost a single Plant.

The thirty-ninth and fortieth Sorts are Annuals, and require to be sown every Year. The thirty-ninth Sort is a very beautiful Plant, being all over set very thick with transparent crystal-like Drops, as if covered with small Icicles; from whence it is by some called the Frosty Ficoides. The Seeds of this Plant should be sown very early in the Spring upon a good Hot-bed; and when the Plants are come up, they must be planted into small Pots filled with light fresh sandy Earth, and plunged into another Hot-bed; and as that Hot-bed declines its Heat, they should be removed into a third Hot-bed, which will bring them forward towards Flowering; and in *July* these Plants may be exposed to the open Air by degrees, by which time their Flowers will appear, and be hereby rendered strong, and capable to produce good Seeds. But you should always confine in small Pots such Plants as you design for Seed, never suffering them to root through the Hole in the Bottom of the Pot into the Ground, which would occasion their growing to be much larger and stronger Plants: but then their Strength would be diverted from the Seed-vessels to nourish and produce strong Shoots; so that it seldom happens, that the strongest Plants produce good Seeds. But if you would have some of these Plants
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of a large Growth, you should shake them out of the Pots into an old Hot-bed of Tanners Bark, where their Roots and Branches will extend to a considerable Length. I have had one of these Plants in such a Bed, which has spread above a Yard square; and the Leaves and Branches were of a prodigious Size.

The Flowers of this Plant are of no great Beauty; but the Oddness of the whole Plant renders it worthy of a Place in every curious Garden.

The fortieth Sort is a Plant of little Beauty; and is seldom preserved but in curious Botanic Gardens, for Variety.

This is one of the Plants which are cultivated in *Spain*, to make Pot-ash; and, if I have been truly informed, is that of which they make the Barilla; which is so essential in the making of hard Soap, and white Glass, that neither of them can be made without it; so that the *Spaniards* have a great Trade for this Commodity: for, at present, there is very little of this Pot-ash brought from any other Country; tho' formerly a great Quantity was brought from *Alexandria*: but there are several judicious Persons who believe that the Barilla is made from one Species of Kali, or Grasswort; tho' I have received the Seeds of this Sort of Ficoides, from *Alicant* and *Egypt*, by the Name of *Barilla*, which have grown and flowered very well; but have never yet produced Seeds with me. This Sort is certainly cultivated about *Alicant*, where they make a Pot-ash of the dried Plant; but whether this is the best Sort of Barilla, or a Pot-ash of an inferior Quality, is yet doubtful with me: but certainly it might be worthy an Inquiry, since the Commodity is so necessary in these two Manufacturies of Glass and Soap; and whatever

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Plant it is that is so useful, it might be cultivated to great Advantage in *Carolina*, and some of the *British* Possessions in *America*: and hereby there might, at all times, be a Supply of this Pot-ash brought to *England*; which is with Difficulty procured, whenever there is a Misunderstanding between the *English* and *Spanish* Nations.

The first, second, and twenty-first Sorts I have never yet seen flower, although there are many large Plants of each Kind in divers Gardens in *England*. I had one Plant of the twenty-first Sort, which had been planted into an open Border, against a Wall, that was set very thick with Buds in almost every Part of the Plant, late in the Autumn 1726. but a sudden sharp Frost happening, destroyed the whole Plant.

The third, fourth, sixteenth, seventeenth, twenty-second, twenty-third, twenty-fourth, and twenty-fifth Sorts branch out, and grow shrubby, and produce large Quantities of very beautiful Flowers; which, being expanded in the Heat of the Day, afford a very agreeable Prospect, and are well worth cultivating in every Collection of Plants, for their Beauty; as are all the Dwarf succulent Sorts, for their Oddness; and some of them produce beautiful Flowers, tho' not in such Plenty as the former.

These are, some or other of their Sorts, continually in Flower; but their chief Season of flowering is from *April* to *September*; and many of them produce good Seeds: but as their Cuttings seldom fail to take Root, they are rarely propagated by Seeds in *England*.

PICUS, The Fig-tree.

The Characters are;

The Flowers, which are always inclosed in the Middle of the Fruit, consist

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consist of one Leaf, and are Male and Female in the same Fruit: the Male Flowers are situated toward the Crown of the Fruit; and the Female, which grow near the Stalk, are succeeded by small hard Seeds: the intire Fruit is, for the most part, turbinated and globular, or of an oval Shape, is fleshy, and of a sweet Taste.

The Species are;

1. *Ficus sativa*, fructu violaceo longo, intus rubente. Tourn. The long blue Fig.
2. *Ficus sativa*, fructu oblongo albo mellifluo. Tourn. The long white Fig.
3. *Ficus sativa*, fructu præcoci albido fugaci. Tourn. The early white Fig, by some falsely call'd the Marseilles Fig.
4. *Ficus sativa*, fructu globoso albo mellifluo. Tourn. The great round white Fig.
5. *Ficus sativa*, fructu parvo fusco, intus rubente. Tourn. The small brown Fig, commonly call'd the Malta Fig.
6. *Ficus sativa*, fructu longo majori nigro, intus purpurascete. Tourn. The great long black Fig.
7. *Ficus sativa*, fructu globoso fusco, intus rubente. The Murrey Fig.
8. *Ficus sativa*, fructu præcoci subrotundo albido striato, intus roseo. Tourn. The roundish white-striped Fig.
9. *Ficus sativa*, fructu viridi, longo pediculo infidente. Tourn. The green Fig.
10. *Ficus sativa*, fructu parvo serotino albido, intus roseo, mellifluo, cute lacera. Tourn. The Marseilles Fig.
11. *Ficus sativa*, fructu flavescete, intus suave-rubente. Tourn. The yellow Fig.
12. *Ficus sativa*, fructu majori

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violaceo oblongo, cute lacera. Tourn. Great long violet Fig.

13. *Ficus sativa*, fructu magno rotundo depresso spadiceo, circa umbilicum dehiscete, intus suave-rubente. Garid. The Rose Fig.

14. *Ficus sativa*, fructu magno rotundo albo mellifluo, foliis magis dissectis. The great white Turkey Fig, with deeply-cut Leaves.

15. *Ficus sativa*, fructu longo majori nigro, intus albo, serotino. Tourn. The great black Fig, with a white Pulp.

16. *Ficus sativa*, fructu globoso nigro, intus rubente. The black Ischia Fig.

17. *Ficus sativa*, fructu longissimo spadiceo, intus fusco. The Brunswick Fig.

18. *Ficus sativa*, fructu globoso viridi, intus roseo. The Candia Fig.

19. *Ficus sativa*, fructu parvo albo, intus pallide-virente, suavissimo. The least white Fig from Ischia.

20. *Ficus sativa*, fructu globoso, extus pallide-virente, intus rubro. The green Ischia Fig.

21. *Ficus sylvestris Cretica*, folio non diviso, leviter crenato. T. Cor. The Candia wild Fig, with undivided Leaves, falsely called the Sycomore-tree.

22. *Ficus Americana*, latiori folio venoso, ex Curacao. Pluk. Alm. The broad-leav'd American Fig.

23. *Ficus Malabarensis*, folio cuspidato, fructu rotundo parvogemino. D. Syen. Pluk. Alm. The Malabar Fig, or Indian God-tree.

The first twenty Sorts are cultivated in curious Gardens for their Fruits, which are esteemed, by all delicate Palates, amongst the richest Sorts of Fruits; tho' few vulgar Tastes care for them, so that they are

are often planted in Places exposed, where few other Fruits would escape being stolen. In *England* we have had but few Sorts of this Fruit, compared with the vast Varieties with which the Southern Parts of *France* and *Italy* abound, till of late; and it is to be hoped, that in a few Years we shall be supplied with most of their curious Sorts; especially since we see yearly, that great Numbers of People come to relish them. But one great Discouragement to the Propagation of these Trees was the Unskilfulness of the *English* Gardeners in their Culture and Management. I shall therefore begin with an Account of the Planting, Increasing, and Pruning, of these Trees; which I shall treat as clear as possibly I can, and only mention the Methods used, with which I have had great Success.

The common Method of propagating these Trees is from Suckers, which come up from the Roots of old Trees. But this is what I would never advise; for these Plants, when grown large, are much more subject to produce Suckers again, than those raised by Layers, which are by far the best rooted and most promising Plants: therefore I would always make choice of the latter Method, especially since they are very easy to be propagated that Way: for if any of the young Branches are laid down in the Earth in the Autumn, they will be well rooted by that time Twelvemonth, which is the proper time to remove them.

Fig-trees generally thrive in all Soils, and in every Situation; but they produce a greater Quantity of Fruit upon a strong loamy Soil, than on dry Ground; for if the Season proves dry in *May* and *June*, those Trees which grow upon very warm dry Ground, are very subject to cast

their Fruit: therefore, whenever this happens, such Trees should be well watered and mulched, which will prevent the Fruit from dropping off: and the Fruit upon these Trees are better flavoured than any of those which grow upon cold moist Land. I have always observed those Fig-trees to bear the greatest Quantity of well-flavoured Fruit, which were growing upon chalky Land, where there has been a Foot or more of a gentle loamy Soil on the Top. They also love a free open Air; for altho' they will shoot and thrive very well in close Places, yet they seldom produce any Fruit in such Situations: and all those which are planted in small Gardens in *London*, will be well furnished with Leaves; but I have never seen any Fruit upon them.

These Trees are always planted as Standards, in all warm Countries; but in *England* they are generally planted against Walls, there being but few Standard Fig-trees, at present, in the *English* Gardens: however, since the Fruit is found to ripen well upon the Standards, and the Crop of Figs is often greater upon them, than upon those Trees against Walls, it may in time become the general Practice to plant them either in Standards or Espaliers: the latter, I think, will succeed best in *England*, if they were managed as in *Germany*; where they untie the Fig-trees from the Espalier, and lay them down, covering them from the Frost with Straw or Litter, which prevents their Shoots being injured by the Frost; and this Covering is taken away gradually in the Spring, and not wholly removed until all the Danger of Frost is over: by which Management, they generally have a very great Crop of Figs; whereas in *England*, where the Trees grow against

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warm Walls, if the Spring proves warm, the young Figs are pushed out early; and the Cold, which frequently returns in *April* and *May*, causes the greatest Part of the Fruit to drop off: so that our Crop of Figs is generally more uncertain, than most other Sorts of Fruit; and it frequently happens, that Trees which are planted against North and East aspected Walls, produce a greater Quantity of Fruit in *England*, than those which are planted against South and South-east Aspects; which must arise from the latter putting out their Fruit so much earlier in the Spring than the former: and if there happen cold frosty Nights, after the Figs are come out, which is frequently the Case in this Country, the forwardest of the Figs are generally so injured as to drop off from the Trees soon after. In *Italy*, and the other warm Countries, this first Crop of Figs is little regarded, being few in Number; for it is the second Crop of Figs which are produced from the Shoots of the same Year, which is their principal Crop; but these rarely ripen in *England*; nor are there above three or four Sorts which ever ripen their second Crop, let the Summer prove ever so good; therefore it is the first Crop which we must attend to in *England*: so that when these Trees are growing against the best-aspected Walls, it will be a good Method to loosen them from the Wall in Autumn; and after having divested the Branches of all the latter Fruit, to lay the Branches down from the Wall, fastening them together in small Bundles, so that they may be tied to Stakes, to keep them from lying upon the Ground; the Damp whereof, when covered in frosty Weather, might cause them to grow mouldy: and hereby they will be secured from

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being broken by the Wind. When they are thus managed in Autumn, if the Winter should prove very severe, the Branches may be easily covered with Peas-haulm, Straw, or any other light Covering, which will guard the tender fruit-bearing Branches from the Injury of Frost: and when the Weather is mild, the Covering must be removed, otherwise the Figs will come out too early; for the Intention of this Management is, to keep them as backward as possible: then in the Spring, when the Figs are beginning to push out, the Trees may be fastened up to the Wall again. By this Management, I have seen very great Crops of Figs produced in two or three Places.

I have also seen great Crops of Figs in some particular Gardens, after very sharp Winters; when they have, in general, failed in other Places, by covering up the Trees with Reeds made into Panels, and fixed up against the Walls.

In the Pruning of Fig-trees, the Branches must never be shortened; because the Fruit are all produced at the Upper-part of the Shoots; so, if these are cut off, there can be no Fruit expected; beside, the Branches are very apt to die after the Knife: so that when the Branches are too close together, the best Way is to cut out all the naked Branches quite to the Bottom, leaving those which are best furnished with lateral Branches at a proper Distance from each other, which should not be nearer than a Foot: and when they are well furnished with lateral Branches, if they are laid four or five Inches farther asunder, it will be better.

The best Season for pruning of Fig-trees is in Autumn, because at that time the Branches are not so

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full of Sap; so they will not bleed so much, as when they are pruned in the Spring; and, at this Season, the Branches should be divested of all the autumnal Figs; and the sooner this is done, when the Leaves begin to fall off, the better will the young Shoots resist the Cold of the Winter. There are some Seasons so cold and moist, that the young Shoots of the Fig-trees will not harden; but are soft, and full of Juice: when this happens, there is little Hope of a Crop of Figs the succeeding Year; for the first Frost in Autumn will kill the Upper-part of these Shoots, for a considerable Length downward: whenever this happens, it is the best Way to cut off all the decayed Part of the Shoots, which will prevent the Infection from destroying all the Lower-part of the Branches; and, by this Method, I have seen a moderate Crop of Figs put out from the Lower-part of the Shoots, where, if the Shoots had not been injured, there would have been no Fruit produced; because it is chiefly from the four or five uppermost Joints of the Shoots, that the Fruit comes out: and it is for this Reason, that as many of the short lateral Branches should be preserved as possible, those being the most productive of Fruit; for where the long strait Shoots are fastened up, there will be no Fruit, but at their Extremities; so that all the lower Part of the Trees will be naked, if there is not a particular Regard had to supply young Shoots in every Part of the Trees.

Those Trees which are laid down from the Walls or Espaliers, should not be fastened up again until the End of *March*. for the Reasons before given; and those against Walls may remain some time longer: and when the large Shoots of these are nailed up, if the small lateral Branches

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are thrust behind these, to keep them close to the Wall, it will secure the young Figs from being injured by the morning Frosts: and when this Danger is over, they may be brought forward to their natural Position again: during the Summer-season, these Trees will require no pruning; but the Branches are often blown down by Wind; therefore, whenever this happens, they should be immediately fastened up again; otherwise they will be in Danger of breaking; for the Leaves of these Trees being very large and stiff, the Wind has great Power on them; so that where the Branches are not well secured, they are frequently torn down.

Those Trees which are planted against Espaliers, may be protected from the Injury of Frost in the Spring, by placing Reeds on each Side the Espalier, which may be taken down every Day, and put up again at Night; but this need not be practised in warm Weather, but only at such times as there are cold Winds, and frosty Mornings: and altho' there is some Trouble and Expence attending this Management, yet the plentiful Crop of Figs, which may be this way obtained, will sufficiently recompense for both: the best Way of making this Covering is, to fasten the Reeds with Rope-yarn, in such a manner, as that it may be rolled up like a Mat; so that the Whole may with great Facility be put up, or taken down: and if these Reeds are carefully rolled up, after the Season for using them is over, and put up in a dry Shed, they will last several Years.

There are several Persons who of late have planted Fig-trees in Standards, which have succeeded very well: this Practice was revived, by observing some old Standard Fig-trees

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trees in some Gardens; which had been growing many Years, and generally produced a much greater Plenty of Fruit than any of those Trees which were growing against warm Walls: indeed, these Standard Fig-trees are in much greater Danger of having their Branches killed by severe Frost; but in mild Winters they generally do better than those against Walls; so that where these Trees can be covered in very hard Winters, there will always be plenty of Fruit; and these may be covered by fastening as many of the Branches together, as can be conveniently brought into a Bundle; and winding some Haybands, Straw, Peas-haulm, or any such light Covering as can be readily procured; which in the Spring may be gradually taken off, so as not to expose the Shoots all at once to the open Air; and if there is some such light Covering laid round the Stems, and upon the Surface of the Ground about their Roots, it will more effectually secure them from the Danger of Frost; but when this is practised, great Care should be taken, that no Mice or Rats harbour in this Covering; for these will eat off the Bark from their Shoots, and kill them: and I have often observed those Trees which were against Walls, have suffered greatly from these Vermin, by having many of their largest Branches disbarked near the Ground, which has absolutely killed them: and it is in the Winter that these Vermin do this Mischief to them; therefore they should be carefully watched at that Season.

The common blue and white Figs, which are the Sorts which have been the most generally cultivated in *England*, are not so proper to plant for Standards, as some other Sorts which have been lately intro-

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duced; for they are much tenderer, and are often killed almost to the Root, when some of the other Sorts, which have been growing in the same Situation, have received very little Injury from the Frost: indeed the white Sort is generally a great Bearer, and the Fruit is very sweet; but to those Palates which are accustomed to Figs, that Sort is not much in Esteem, from its want of Flavour. The Sorts which I have found succeed best with me, are the ninth, eleventh, thirteenth, sixteenth, and eighteenth. Their Branches are rarely hurt by Frost in Winter, and their Fruit will always ripen well; for in favourable Seasons, many of these Sorts, which were growing against Walls, have ripened their second Crop of Fruit tolerably well: these have also succeeded very well in Standards, altho' the Seasons have been very unfavourable for these Fruits since they were planted. I have also planted many of these Sorts of Fig-trees against North-east and North-west Aspects; some of those which were first planted, have produced a good Quantity of well-tasted Fruit, which has encouraged me to plant many more of these Trees, to the same Aspects; and also to increase my Number of Standard-trees.

I am aware, that what I have here advanced, in relation to the Pruning and Dressing of Fig-trees, will be condemned by great Numbers of People, who will not give themselves time to consider and examine the Reasons upon which I have founded this Practice, nor to make one single Experiment to try the Truth of it, as being vastly different from the general Practice of most Gardeners, who always imagine, that Fig-trees should never have much Pruning, or at least, that they should

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always be suffered to grow very rude from the Wall, to some Distance. That by this Management I have often seen great Quantities of Fruit, I cannot deny; but then this has been only in mild Weather; for it is very certain, that in sharp Frosts few of these outside Shoots escape being greatly injured where they are not covered; whereas it rarely happens, that those Shoots which are closely nailed to the Wall at *Michaelmas*, or laid down and covered, do suffer the least Damage; and the Fruits are always produced a Fortnight sooner upon these Branches, than they are upon those which grow from the Wall.

The Season also for Pruning, which I have laid down, being vastly different from the common Practice and Opinion of most Gardeners, will also be objected against; but I am sure, if any one will but make Trial of it, I doubt not but his Experience will confirm what I have here advanced; for as one great Injury to this Tree proceeds from the too great Effusion of Sap at the wounded Parts, so by this Autumn-pruning this is prevented; for, at that Season, all the Parts of *European* Trees, which cast their Leaves, are less replete with Moisture than at any other time of the Year; for by the long Continuance of the Summer's Heat, the Juices of Plants having been exhausted in the Nourishment and Augmentation of Wood, Leaves, Fruits, &c. and also great Quantities being evaporated by Perspiration, the Root not being able to send up a Supply equivalent to this great Consumption, the Branches must contain a much less Quantity of Sap than in the Spring, when it has had several Months Supply from the Root; which tho' but small in proportion to what is sent

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up when the Heat is greater, yet there being little or no Waste, either by Perspiration or Augmentation, there must be a greater Quantity contained in the Branches; which also is easily to be observed, by breaking or cutting off a vigorous Branch of a Fig-tree at both Seasons (the Sap, being milky, may be readily discerned); when that cut in Autumn shall be found to stop its bleeding in one Day's time, or less; whereas that cut in the Spring will often flow a Week or more; and the Wound will be proportionably longer before it heals.

Tho' the List of Figs, which I have here added, may be greater in Number of Sorts than many People at present know; yet it is very small, when compared with the great Variety of Sorts which are known in the more Southern Countries of *Europe*; from whence I have been supplied with a great Number of Trees, of very different Sorts, by my honoured and learned Friend, his Excellency the Chevalier *Rathgeb*, his Imperial Majesty's Minister at *Venice*; who has been so good as to procure me, from all the different Parts of *Italy*, as great a Variety of these Trees as possible; many of which have already produced a great Quantity of Fruit; which are much superior in Flavour to the old Sorts, which were before cultivated in *England*.

The twenty-first Sort is by many People supposed to be the true *Sycomore-tree*, mentioned in Scripture; which is a Sort of Fig which produces its Fruit out of the old Wood of the Tree, and is very small; but as this Tree has not produced any Fruit with us, I cannot determine whether it be the right Kind, or not.

The twenty-second and twenty-third Sorts here mentioned are very tender Plants, being Inhabitants of warm Countries: I received Seeds of both these Sorts from *Jamaica*, from which I raised many Plants, some of which are grown to a considerable Size; and the seventeenth Sort has push'd out many small Figs from the Joints; but they dropt off in a short time without coming to Maturity.

The twenty-third Sort is called the *Indian* God-tree, it being a Tree under which the superstitious *Indians* perform their Worship.

These are both very handsome Plants, and deserve a Place in all curious Collections of Exotic Trees: they may be propagated by Layers, as the common Fig; but should be planted in Pots of fresh Earth, and preserved in Stoves: in the Summer they may be exposed during the Months of *July* and *August*; but must be removed into Shelter early in *September*. During the Winter-season they will require frequent Waterings, provided the Stove is kept to a good Degree of Heat; otherwise they must be watered very sparingly. The Heat which these Plants best agree with in the Winter, is about the temperate Point, as mark'd on the Botanical Thermometers; for in a much greater Degree of Heat they will grow too freely in Winter; and in a less, they will be apt to drop their Leaves, and lose their leading Bud; whereby the Beauty of the Tree will be greatly impaired. But if you are desirous to have these Trees grow to a large Size, and in a short time, you should plunge their Pots into Tanners Bark, which will cause them to make a considerable Progress. I have had Plants of the twenty-second Sort, which, by this Management, have

been eight Feet high in two Years, from the time of sowing the Seeds; and the Leaves have been prodigiously large and fair.

These Trees are Natives of the *East* and *West-Indies*: in the *East-Indies* the twenty-second is called the Banyan-tree: the Natives trim the Branches of these Trees, and train them, so as to form covered arched Groves; in the Midst of which, they set up their *Pagods*, and make these the Places of their Worship. In the *West-Indies* this Tree is called the Bearded Fig-tree, from its sending out Roots from the Branches, which strike down into the Ground; and from thence shoot up Stems again; so that a single Tree, if permitted to grow, will make a Forest: and these Roots, coming out in great Plenty, from all the Branches, form a Cover so thick, as to render the Places where they grow impassable; so that they are generally Harbours for wild Animals. There are some of these Trees at present in *England*, which have been encouraged in Stoves; which in a few Years have grown so large, as not to be contained under the Glasses, tho' they were upward of twenty Feet high; and have sent down their Roots, and spread quite over a Bark-bed, ten Feet in Length; but as these require so much room, there are no Stoves, yet built, capable of containing them, when they grow large.

Both these Sorts of Figs may be propagated by Cuttings, which may be planted in *June* or *July*; and should be plunged into a moderate Hot bed of Tanners Bark, which will promote their Rooting; so that the Cuttings, by this Method, will have made Roots strong enough to be transplanted in about two Months; when they should be each planted

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into a separate Pot, and treated as the old Plants.

There is another Sort of these Figs, which is in some of the curious Gardens in *Holland*, which is called *Ficus nymphaeae foliis*, i. e. Figs with Leaves like the Water-lily; the Pedicle of the Leaf being situated in the Middle of the Leaf, in the same manner as is the Water-lily. This is a Native of the warm Parts of *America*; so cannot be kept in *England*, unless placed in a warm Stove: at present there are no Plants of this Kind in the *English* Gardens. This must be treated in the same manner as hath been directed for the other two Sorts.

FICUS INDICA. *Vide* Opuntia.

FILAGO. *Vide* Gnaphalium.

FILBERT. *Vide* Corylus.

FILIPENDULA, Dropwort.

The Characters are;

It hath a fibrose Root, with oblong Bulbs or Tubers fasten'd to the Bottom of the Fibres: the Leaves are finely cut into narrow Segments: the Flowers, which consist of six or seven Petals, are disposed into a loose Panicle: the Fruit is almost round, containing many Seeds, which are gathered into an Head resembling a Tub.

The Species are;

1. FILIPENDULA vulgaris, an *Molon* Plinii. C. B. Common Dropwort.

2. FILIPENDULA vulgaris, an *Molon* Plinii, folio variegato. H. R. Par. Common Dropwort, with a variegated Leaf.

3. FILIPENDULA omni parte major, folio angustiori. Boerb. Ind. Larger Dropwort, with a narrower Leaf.

The first of these Species is used in Medicine; but is seldom cultivated in Gardens: it grows wild in most Parts of *England* upon open Heats and Commons, as also upon chalky Hills.

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The second Sort is a Variety of the first, with striped Leaves; and is preserved in some curious Gardens by such as delight in variegated Plants.

The third Sort I brought from *Holland* Anno 1727. This differs from the common Sort in being larger in every Part; but the Leaves are narrower, and finer cut: there is also one with double Flowers, which is preserved in some curious Gardens.

These Plants may be easily propagated by taking up their Roots in Autumn, when the Leaves begin to decay, and parting them into small Heads; which, if planted in an open Situation, will thrive and increase exceedingly. They may also be propagated by sowing their Seeds in Autumn, which will come up the succeeding Spring, and the second Season will flower: but this is not the surest way to preserve the Kinds; for they may be apt to vary from the Sorts sown.

FILIX, Fern. There are great Varieties of this Plant in the different Parts of the World, but particularly in *America*, as may be seen in the *Natural History of Jamaica*, published by Sir Hans Sloane, Bart. and in *Plumier's American Ferns*: but as they are Plants which are seldom propagated in Gardens, I shall pass them over in this Place.

FIR-TREE. *Vide* Abies.

FLAMMULA JOVIS. *Vide* Clematis.

FLOS AFRICANUS. *Vide* Tagetes.

FLOS PASSIONIS. *Vide* Gracillia.

FLOS SOLIS. *Vide* Helianthus.

FLOS TRINITATIS. *Vide* Viola.

FOENICULUM, Fenel.

The Characters are;

It is an umbelliferous Plant, whose Leaves are divided into capillaceous Jags: the Petals of the Flower are intire, and placed orbicularly, expanding in form of a Rose: each Flower is succeeded by two oblong thick gibbose Seeds, which are channel'd on one Side, and plain on the other.

The Species are;

1. FOENICULUM *vulgare* Germanicum. C. B. Common Fenel.
2. FOENICULUM *foliis atro-virentibus*. H. Ed. Common Fenel, with dark-green Leaves.
3. FOENICULUM *dulce*. C. B. Sweet Fenel.
4. FOENICULUM *sylvestre*. C. B. Wild Fenel.
5. FOENICULUM *dulce* Azoricum. Pluk. Almag. Finochia, *vulgo*.

The first Sort is so common in England, that it will be needless to say any thing concerning it.

The second Sort is a Variety of the first; which is very common amongst it in most Gardens in England.

The third Sort is the sweet Fenel, whose Seeds are used in Medicine: this is by many People supposed to be only a Variety of the common Sort, or at least that the common Sort is a Degeneracy from it: but this is a great Mistake; for the sweet Fenel is an annual Plant, and never survives a Winter with us; whereas the common Sort will abide many Years.

The first and second Sorts are promiscuously brought to the Markets for Kitchen-uses. These are propagated by sowing their Seeds soon after they are ripe; and when the Plants are come up, they should be either transplanted, or hoed out to the Distance of sixteen or eighteen Inches, Plant from Plant; for they

will spread and increase in Bulk greatly: their Roots will abide many Years; but you must be careful not to suffer their Seeds to shed upon the Ground; for the Plants will come up, and over-run every thing that grows near them, and they are with much Difficulty extirpated.

The sweet Fenel is an Annual, and must be sown upon a warm Soil, and in an open Situation, in February, or the Beginning of March; and when these Plants are come up, they should be hoed out to ten Inches or a Foot Distance from each other, and kept clear from Weeds: in August this Plant will perfect its Seeds, and soon after the Roots will decay. The Seeds of this Plant, which are saved in England, are not near so good as those which are brought from Abroad, which are generally imported at a very reasonable Price; therefore it is not worth cultivating with us.

The Finochia is a Plant which of late Years has been introduced into the English Gardens; where it is cultivated as a Sallad-herb, and is by some People very much esteemed, tho' the Generality of English Palates do not at present relish it; but since it is likely to become of more general Use, I shall give a short Account of its Culture.

First, you must provide yourself with a Parcel of good Seeds from Italy; for those saved in England are very apt to degenerate: in February you may sow for the first Crop; which should be in a warm Situation, and upon a light dry Soil. The manner of doing this is as follows: After having well dug and levell'd the Ground smooth, you should make a shallow Rill by a Line, into which you must scatter your Seeds pretty thin; for if your Plants are six Inches asunder in the

Rows, it will be full near enough; but however, you must expect some of your Seeds to fail: and therefore you should scatter them about two Inches Distance; then cover the Seeds about half an Inch thick with Earth, laying it smooth: these Rills should be made sixteen Inches asunder, or more, that there may be room to clear the Ground; as also to earth up the Plants when they are full grown.

When the Plants come up, which will be in the Space of about three Weeks or a Month after sowing, you must with a small Hoe cut up all the Weeds between them, and cut out the Plants to about four Inches Distance; and as they advance, and the Weeds spring again, they should, from time to time, be hoed: and at the last time of thinning them, they should be left six or seven Inches asunder at least. If your Kind be good, the Stems of the Plant will increase to a considerable Bulk just above the Surface of the Ground; which Part should be earth'd up in the manner of Celery, to blanch, about a Fortnight before it is used; and this will cause it to be very tender and crisp.

Your second Crop should be sown about three Weeks after the first, and so continue sowing every three Weeks or a Month till *July*; after which time it will be too late for the Plants to come to any Perfection. But you should observe to sow in *April* and *May* on a moister Soil than that which you sow'd the first on: as also what you sow in the latter Part of *June*, or the Beginning of *July*, should be sown on a drier Soil, and in a warmer Situation; because this Crop will not be fit for Use till late in Autumn, and therefore will be subject to Injuries from too much wet or cold Weather, if on

a moist Soil. But as the Ground is very often extreme dry in *June* and *July*, and the Seeds more apt to miscarry, and not come up, you should therefore observe to water and shade the Beds where this Seed is sown at that Season, until the Plants come up.

A small Bed of this Plant will be sufficient at each Sowing for a middling Family; and for a large Family, a Bed of about twenty Feet long, and four Feet broad, will be full enough at a time.

FOENUMBURGUNDIACUM.

Vide Medica Sativa.

FOENUM GRÆCUM. *Vide Trigonella.*

FRAGARIA, Strawberries.

The Characters are;

It hath a perennial fibrose Root: the Leaves are vein'd, growing three upon each Footstalk: the Stalks trail upon the Ground: the Cup of the Flower consists of one Leaf, which is divided into ten equal Parts, and expands in form of a Star: the Flower consists, for the most part, of five Leaves, which expand in form of a Rose, and have many Stamina in the Middle, round the Base of the Ovary: the Fruit is globose or oval, and consists of a fleshy eatable Pulp, full of Protuberances.

The Species are;

1. FRAGARIA *vulgaris*. C. B. Common or Wood-strawberry.

2. FRAGARIA *fructu albo*. C. B. Common Strawberry, with white Fruit.

3. FRAGARIA *fructu parvi pruni magnitudine*. C. B. The Hautboy Strawberry, *vulgo*.

4. FRAGARIA *Virginiana, fructu coccineo*. M. H. *Virginian* Strawberry, with scarlet Fruit; commonly called Scarlet Strawberry.

5. FRAGARIA *Chiliensis, fructu maximo, foliis carnosissimis hirsutis*; *vul-*

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go *Frutilla*. *Frez. Voy.* Large *Chili* Strawberry.

6. *FRAGARIA fructu globoso majore suavissimo.* The Globe-hautboy Strawberry.

7. *FRAGARIA fructu parvo ex albo virescente.* Strawberry with a small greenish-white Fruit.

The first and second Sorts of Strawberry are found wild in the Woods in divers Parts of *England*, from whence the Plants are taken, and transplanted into Gardens, by which the Fruit is improv'd. The best Season for this Work is *September*, that the Plants may be rooted in their new Quarters before the Frost begins; which is very apt to loosen the Earth so much about their Roots, that when the Frost goes off, the Plants are apt to be turn'd out of the Ground. They may also be transplanted in *February*; but then, if the Spring should prove dry, they will require a great Expence of Water to keep them alive.

The Soil which is most proper for these Plants, is a fresh hazelly Loam, not over-rich, which would cause the Plants to spread and flourish; but they would not be so fruitful as upon a moderate Soil. The Ground should be well dug, and clear'd from the Roots of all noxious Weeds; and after it is levell'd even, you must mark it out into Beds about three Feet and an half wide; leaving a Path between each Bed two Feet broad, for the Convenience of walking between them to water and clean them, as also to gather the Fruit. In these Beds may be planted four Rows of Plants, whereby they will be about a Foot asunder Row from Row; and in the Rows they should be planted at least eight Inches distant Plant from Plant; for if they are planted nearer, they will in one Year's time be so thick,

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that they will not have room to thrive.

Note, The Distance here design'd being for the Wood-strawberry, the other large-growing Kinds must have a greater Share of room, according to their different Degrees of Growth; as for Example, the scarlet strawberry should be planted a Foot square Plant from Plant; and the Hautboy sixteen or eighteen Inches Distance each Way; and the *Chili* Strawberry twenty Inches, or two Feet.

In the Spring of the Year, when the Strawberries begin to flower, if the Season should be dry, you must observe to water them plentifully, otherwise the Flowers will fall away without producing any Fruit. You must also carefully clean your Beds of Strawberries from Weeds from time to time, as they shall require; for if they are once suffer'd to overbear the Plants, they will decay in large Patches; and also greatly weaken all those that may continue alive. About *Michaelmas* you should clear off all the Weeds from the Beds, as also cut off all the Strings or Runners from the Roots, pulling out all weak Plants where they are too close; then dig up the Walks between the Beds, burying the Weeds that came off in the Bottom, and throw a little fine Earth over the Beds between the Plants; being very careful not to lay it so thick as to bury the Plants; this will greatly strengthen them, and cause their Fruit to be larger, and in greater Quantities, than they would be, if left undress'd.

These few Rules will be sufficient, if duly regarded, for cultivating these Plants. I would only farther observe, that these Beds will not continue bearing well more than three Years; therefore, in order to have

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a constant Supply, you should plant a fresh Plat of Ground a Year before you destroy the old Beds; otherwise (your young Plantation producing few or no Fruit the first Year) you will be destitute a whole Season.

The Wood-strawberry is by many People prefer'd for the Firmness of its Fruit, and Delicacy of Flavour: others greatly admire the scarlet Sort for its Goodness; and the Hautboy is esteemed for the Largeness of its Fruit: but the last Sort is by far the best flavour'd of all the Kinds, tho' it is a bad Bearer.

The scarlet Strawberry is a Native of *America*, and was first brought into *England* from *Virginia*; but this is now become so common in the Gardens, as to be thought by many a Native of this Country. This is the earliest Sort, always coming a Fortnight sooner than either the Wood or Hautboy Strawberries; and is an excellent well-flavour'd Fruit; so is generally esteemed.

The Hautboy is also a firm well-flavour'd Fruit; and the Globe-hautboy, as it is generally called, is a very good Bearer, and a large Fruit.

The Wood-strawberry, both the red and white, will bear in greater Plenty, when they are planted in a strong moist Soil, than when they are on a dry light Ground; where, if they are not well supplied with Water in dry Seasons, they will produce very little Fruit.

The green Strawberry is the latest of all the Sorts; this produces its Fruit in large Bunches upon long Footstalks; so requires to have some Support, especially in wet Seasons; otherwise the Fruit will lie upon the Ground, and the Earth will be washed over them; or if the Surface of the Beds is covered with Moss, it will be an excellent Method to

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preserve the Fruit clean. This Sort seldom produces much Fruit in warm dry Land; but upon strong stiff Ground bears plentifully, and is the richest Fruit of all the Kinds yet known; being very firm, and of a remarkable Quickness in its Flavour. This Sort is by some Persons stiled the Pine-apple Strawberry, from an Affinity, as they suppose, between the Flavour of this Fruit and that of the Pine-apple; and some others have given it the Name of *Drayton* Strawberry, from its having been much cultivated there.

The *Chili* Strawberry was brought first into *Europe* by Monsieur *Frezier*, Engineer to the late *French* King, and given to Monsieur *de Jussieu*, Professor of Botany to the Royal Garden at *Paris*; who hath spread it into divers Parts of *Europe*. This Plant, Monsieur *Frezier* says, is cultivated in the Fields near *Chili* in great Plenty; and that it differs from the *European* Kinds, in having larger, thicker, and more hairy Leaves: the Fruit is generally as large as a Walnut, and sometimes as big as an Hen-egg; of a whitish-red Colour, and somewhat less delicious in Taste than our Wood-strawberries. This has produc'd Fruit several Years in the Royal Garden at *Paris*, where Monsieur *Jussieu* assured me it was commonly as large as a small Apple. I brought some of the Plants from *Holland* Anno 1727. which thrive and increase exceedingly; but these bear very indifferently, especially in light Ground; therefore few Persons care to propagate this Sort in *England*. These Plants have been placed in the Sun, and cultivated with Care; but have never succeeded where they have been thus treated. I have observed, that they have succeeded best where they have grown under the Shade of Trees, in a loamy Soil, and
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little more Care taken of them than to keep them clear from Weeds, and to divest them of their Runners every Autumn; for it is the old Plants only which produce Fruit, and those seldom, except in very strong Land; for in the Clays I have seen Plenty of this Fruit, which were very large, and well-flavoured.

FRANGULA, Berry-bearing Alder.

The Characters are;

It hath roundish Leaves, somewhat like those of the Alder-tree; but smaller: the Flower consists of five Leaves, which expand in form of a Rose: the Flowers are succeeded by small round Berries, in each of which are contained two small flat Seeds.

The Species are;

1. FRANGULA, *five Alnus, nigra baccifera. Park. Theat.* Black berry-bearing Alder.

2. FRANGULA *rugosore & amphiore folio. Tourn.* Berry-bearing Alder, with a larger and rougher Leaf.

3. FRANGULA *montana pumila saxatilis, folio subrotundo. Tourn.* Low Mountain rocky berry-bearing Alder, with a round Leaf.

4. FRANGULA *montana pumila saxatilis, folio oblongo. Tourn.* Low Mountain rocky berry-bearing Alder, with an oblong Leaf.

The first Sort is very common in moist Woods in divers Parts of England, and is rarely cultivated in Gardens, except for Variety: it seldom grows above fourteen or sixteen Feet in Height, and is not very regular in its Growth; so that as it is a Plant of no great Beauty, it less deserves a Place in curious Gardens. It may be propagated by Layers, or from Suckers, which arise from the Foot of old Plants; and must be planted in a moist Soil, and a shady Situation, where it will thrive exceedingly.

The second Sort is less common than the former in England; but may be propagated in the same manner as hath been directed for that Sort, and requires a moist Situation: this is much like the former in its Growth, and may be admitted for Variety.

The third and fourth Sorts are of humble Growth, seldom rising above two Feet high: these grow on the Pyrenean Mountains, and are seldom preserved unless in Botanic Gardens, for Variety: they may be increased by laying down their Branches; but must have a strong Soil, somewhat drier than what has been directed for the two former.

The Fruit of the first Sort is often brought into the Markets of London, and sold for Buckthorn-berries; of which Cheat, all such as make Syrup of Buckthorn should be particularly careful: they may be easily distinguished by breaking the Berries, and observing how many Seeds are contained in each; the Berries of this Tree having but two, and those of Buckthorn generally four Seeds in each Berry.

FRAXINELLA, Bastard or White Dittany.

The Characters are;

It hath a perennial Root: the Leaves are pennated like those of the Ash: the Flowers consist of many Leaves, and are of an anomalous Figure, four of these Petals growing on the Upper-side, and one or more on the Under-side of the Flower; in the Centre of which are produced nine or ten crooked Stamina or Threads: each Flower is succeeded by many Pods, which are turn'd back like a Ram's Horn, and open in two Parts, emitting several large hard black shining Seeds.

The Species are;

1. FRAXINELLA. *Clus.* White Bastard

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Bastard Dittany, or Fraxinella, with white Flowers.

2. *FRAXINELLA purpurea major multiflora*. H. R. Par. Great purple Fraxinella, with many Flowers.

3. *FRAXINELLA minor purpurea Belgarum*. H. R. Par. Small purple white Dittany of Holland.

4. *FRAXINELLA niveo flore*. Clus. Hist. White Dittany, with snow-white Flowers.

The first and second Sorts are the most common in England; the other two Sorts are at present more rare; and only to be found in some curious Gardens.

They are propagated either by sowing their Seeds, or parting the Roots: the latter Method, being the most expeditious, is generally made use of, though, if we would supply ourselves with a Quantity of these Plants, we must procure them from Seeds; for the Roots do not multiply very fast; nor should they be disturb'd by parting them oftener than every fourth Year: for if you part them frequently, or into small Heads, the Flowers will be few in Number, and very weak.

The best Season to transplant these Roots is towards the Latter-end of September, or Beginning of October, that they may be rooted before the hard Frosts begin; by which means they will be enabled to resist the Cold, and produce much fairer Flowers than those which are transplanted in the Spring. The Soil in which these Plants thrive best, is a fresh rich gentle Loam, not too stiff, or wet; in both of which they are apt to rot in Winter.

If you would propagate them by Seeds, you must sow them on a Bed of good fresh Earth, in an open Exposure, soon after the Seeds are ripe; for if they are kept till Spring before they are sown, they either mis-

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carry, or lie in the Ground till the next Spring before they come up: but you must carefully observe to weed the Bed; for if you suffer the Weeds to root deep in the Ground, they will endanger the drawing of the Seeds out of the Earth, when the former are pulled up. If the Spring should prove dry when your Plants first appear, you should gently water the Bed, and shade it with Mats in the Heat of the Day, until the Plants have got Strength, observing, as before, to keep them clear from Weeds: in this Bed they may remain until *Michaelmas* following; at which time you should prepare one or more Beds (according to the Number of your Plants) of the like fresh Earth, into which you must plant your Plants at above five or six Inches Distance each Way, being careful, in taking them out of the Seed-bed, not to break or wound their Roots; as also to close the Earth fast to their Roots, when planted, with your Hands, to prevent their being turned out of the Ground by Frost. In these Beds they may remain one Year, by which time (if they have thriven well) they will be strong enough to produce Flowers the succeeding Year; so that now it will be time to transplant them into the Borders of the Flower-garden, where they are designed to remain.

These Plants, continuing a long time in Beauty, are very great Ornaments to a Garden; and their being very hardy, requiring but a little Culture, renders them worthy of a Place in every good Garden. They flower in June.

FRAXINUS, The Ash tree.

The Characters are;

It hath pennated Leaves, which mostly end in an odd Lobe: the Male Flowers (which grow at a remote Distance from the Fruit) have no Petals,

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tals, but consist of many Stamina : the Ovary becomes a Seed-vessel, containing one Seed at the Bottom, which is shaped like a Bird's Tongue.

The Species are;

1. *FRAXINUS vulgaris. Park. Theat.* The common Ash-tree.

2. *FRAXINUS vulgaris, foliis ex luteo variegatis.* The striped Ash.

3. *FRAXINUS folio rotundiore. C. B.* The Manna Ash.

4. *FRAXINUS florifera botryoides. M. H. R. Blas.* The flowering Ash.

5. *FRAXINUS ex Nova Anglia, pinnis foliorum in mucronem productioribus. Rand.* New-England Ash, with sharp-pointed Leaves.

6. *FRAXINUS Caroliniana, latiori fructu. Rand.* Carolina Ash, with broad Keys.

The first Sort is a common Timber-tree growing in every Part of England.

The second is a Variety of the first, from which it only differs in having its Leaves beautifully striped with Yellow.

The third Sort is supposed to be the Tree from whence the true *Calabrian Manna* is taken.

The fourth Sort was raised from Seeds by Dr. *Uvedale* at *Enfield*, which were brought from *Italy* by the late curious Botanist Dr. *William Sherrard*, who supposed this was different from Dr. *Morison's* Tree. But by the Specimens now in Possession of that worthy Encourager of Botanical Studies, Sir *Hans Sloane, Bart.* it appears to be the very same; notwithstanding Mr. *Ray* supposes Dr. *Morison's* Tree to be of *American* Growth.

The fifth and sixth Sorts were both rais'd from Seeds, which came from *America*; but are both of them very hardy. All these Kinds may be propagated by budding them into the common Ash, upon which they

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will all take very well, and become hardier than upon their own Stock: but these budded Trees never grow so large as those which are raised from Seeds, nor will the Stock and Bud keep Pace in their Growth; so that there will be a remarkable Difference in the Size of the Stem, and above the Place where they are budded; but as few of these foreign Kinds have yet arrived at an Age to produce Seeds in *England*, the Nursery-gardeners have been obliged to propagate these Sorts by Budding and Grafting.

The common Ash is propagated by sowing the Keys, in *October* or *November*, on a Bed of fresh Earth, which should be well dug, and cleans'd from Roots, and noxious Weeds: a small Bed will be sufficient to raise a great Quantity of these Trees. The Seeds should be sown pretty thick, and cover'd about half an Inch thick with Earth.

These Seeds, many times, continue until the second Spring before they come up; you should therefore let the Bed remain undisturb'd, and keep it clean from Weeds. When your Plants come up, you must also keep them very clear from Weeds; and if the Season should prove very dry, if you give them now-and-then a little Water, it will greatly promote their Growth: in this Bed they should remain no longer than the Autumn following, provided they have grown well; at which time you should prepare a Nursery, which should be well dug, and clear'd, as before; then with your Spade loosen the Roots of the Plants before you draw them up, otherwise you will endanger the breaking of them. When you have drawn them out of the Ground, shorten the downright Tap-root; but do not cut off any of the lateral Fibres: then having prepared

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prepared your Ground, plant them in Rows, three Feet Distance Row from Row, and a Foot asunder in the Rows, closing the Earth to their Roots with your Feet. In this Nursery they may remain two or three Years, observing to keep them clear from Weeds, as also to trim up the Side-branches every Winter, and dig the Ground between the Rows; after which time you may remove them where they are to remain for good.

This Tree will grow upon almost any Soil; but the better the Soil is, the more the Tree will increase in Bulk. Notwithstanding which, it should not by any means be planted too near the other Trees or Plants; for it will exhaust all the Goodness of the Soil from them; and the Shade of this Tree is malignant to most other Plants. The Distance they should be planted is eight Feet square; and after they have been planted one Year, you may cut down every other Tree, choosing such of them as are crooked, within six or eight Inches of the Ground; this will cause them to make many strong, vigorous Shoots; which, in seven or eight Years time, will be fit for Arbour-poles, or to make Hoops: and the other strait Trees may be suffered to grow for other Timber: the Number of which Trees may be lessened as they increase in Bulk, leaving still the most promising ones to grow for larger Timber.

If a Wood of these Trees is rightly manag'd, it will turn greatly to the Advantage of its Owner; for by the Under-wood, which will be fit to cut every seven or eight Years, for the Uses above-mentioned, there will be a constant Income more than sufficient to pay the Rent of the Ground, and all other Charges; and still there will be a Stock preserv'd

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for Timber; which, in a few Years, will be worth forty or fifty Shillings per Tree.

This Timber is of excellent Use to the Wheelwright and Cartwright for Ploughs, Axle-trees, Wheel-rings, Harrows, Bulls, Oars, Blocks for Pullies, and many other Purposes.

The best Season for Felling of these Trees is from *November* to *February*; for if it be done either too early in Autumn, or too late in the Spring, the Timber will be subject to be infested with Worms, and other Insects: but for Lopping of Pollards, the Spring is preferable for all soft Woods.

FRITILLARIA, Fritillary or Chequer'd Tulip.

The Characters are;

The Flower consists of six Leaves, and is of the bell-shaped Lily-flowers, pendulous, naked, and, for the most part, chequer'd: the Style of the Flower becomes an oblong Fruit, which is divided into three Cells, and fill'd with flat Seeds, lying in a double Row: the Root consists of two fleshy Knobs, which are, for the most part, semi-globular, betwixt which arises the Flower-stalk.

The Species are;

1. FRITILLARIA *serotina, floribus ex flavo virentibus*. C. B. The late-flowering Fritillary, with greenish-yellow Flowers, commonly called the Leather-coat, or common Fritillary.

2. FRITILLARIA *alba præcox*. C. B. The early white Fritillary.

3. FRITILLARIA *alba variegata*. C. B. The white chequer'd Fritillary.

4. FRITILLARIA *serotina, floribus ex flavo virentibus, major*. Boerb. Ind. The great late-flowering Fritillary, with a greenish-yellow Flower; or the common Fritillary, by some called Snake's head Iris.

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5. FRITILLARIA *flavo flore. Clus.*
The yellow Fritillary.

6. FRITILLARIA *præcox purpureo variegata. C. B.* Early purple variegated Fritillary.

7. FRITILLARIA *folio splendente, flore majore ex viridi & purpura variegato, splendente. Boerb. Ind.* Shining-leav'd Fritillary, with a large green and purple shining variegated Flower, commonly called the Monster.

8. FRITILLARIA *umbellifera. C. B.* Many-flower'd Fritillary.

9. FRITILLARIA *lutea maxima Italica. Park. Par.* Greatest yellow Italian Fritillary.

10. FRITILLARIA *serotina, floribus ex flavo virentibus, flore pleno. H. R. Par.* Late Fritillary, with double greenish-yellow Flowers.

11. FRITILLARIA *nigra. Lob. Adv.* Black Fritillary.

12. FRITILLARIA *flore ex rubro-purpureo & viridi variegato. Boerb. Ind.* Fritillary with a redish-purple Flower striped with Green.

13. FRITILLARIA *flore ex pallide-viridi & viete purpureo variegato. Boerb. Ind.* Fritillary with a pale-green Flower, variegated with a deep Purple.

14. FRITILLARIA *Isabella dicta, floribus ex pallide rubicundo virentibus. H. L.* *Isabella* Fritillary, with a pale-red greenish Flower.

15. FRITILLARIA *maxima, flore obsoletæ purpuræ. Tourn.* The greatest Fritillary, of a worn out purple Colour, commonly called the *Persian Lily*.

16. FRITILLARIA *minima. Swert. Flor.* The least Fritillary, or small *Persian Lily*.

There are several other Varieties of this Flower, which are propagated in curious Flower-gardens abroad (especially in *Holland*), which differ in the Colour or Size of their Flow-

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ers; but as these are only Varieties, which were obtained from Seeds, it would be needless to mention them in this Place, since there will be new Varieties obtained every Year where People are curious in sowing their Seeds.

Dr. *Linnaeus* has reduced all these Sorts to two, making the Difference only in the Root; that of the *Persian Lily* being round, and those of the other Sorts being flat: but there are much greater Differences in the Leaves and Flowers of some of these Species, than in many Plants which he has allowed to be distinct Species; and these Differences hold from Seeds.

These Plants are propagated either by Seeds, or Off-sets from the old Roots: by the first of which Methods new Flowers will be obtained, as also a larger Stock of Roots in three Years, than can be obtained in twenty or thirty Years in the latter Method: I shall therefore first treat of their Propagation by Seeds.

Having provided yourself with some good Seeds, sav'd from the fairest Flowers, you must procure some shallow Pans or Boxes, which must have some Holes in their Bottoms to let out the Moisture: these you should fill with fresh light Earth, laying a few Potsheards over the Holes, to prevent the Earth from stopping them: then having laid the Earth very level in the Boxes, &c. you must sow the Seeds thereon pretty thick, covering it with fine sifted Earth a quarter of an Inch thick. The time for sowing the Seed is about the Beginning of *August*; for if it be kept much longer out of the Ground, it will not grow: then place the Boxes or Pans where they may have the morning Sun until Eleven o'Clock, observing, if the Season proves dry, to water

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water them gently, as also to pull up all Weeds as soon as they appear; for if they are suffered to remain until they have taken deep Root into the Earth, they would draw the Seeds out of the Ground whenever they are pull'd up. Toward the Latter-end of *September* you should remove the Boxes, &c. into a warmer Situation, placing them under an Hedge or Wall exposed to the South; in which Place they may remain until the Middle of *March*; by which time the Plants will be come up an Inch high: you must therefore remove the Boxes, as the Weather increases hot, into a more shady Situation; for while the Plants are young, they are liable to suffer by being too much expos'd to the Sun: and in this shady Situation they may remain during the Heat of the Summer, observing to keep them clear from Weeds, and to refresh them now-and-then with a little Moisture; but be careful not to give them much Water after their Leaves are decay'd, which would rot the Roots. About the Beginning of *August*, if the Roots are very thick in the Boxes, you should prepare a Bed of good fresh light Earth, which must be levell'd very even, upon which you should spread the Earth in the Boxes in which the small Roots are contained, equally covering it about one fourth of an Inch thick with the same fresh Earth: this Bed should be situated in a warm Position, but not too close to Hedges, Walls, or Pales, which would cause their Leaves to be long and slender, and make the Roots weaker than if plac'd in a more open Exposure.

In this Bed they may remain until they flower, which is generally the third Year from sowing; at which time you should put down a Mark to the Roots of all such as produce

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fair Flowers; that at the time of taking them out of the Ground (which ought to be soon after their green Leaves are decay'd) they may be selected into a Bed amongst your old Roots of this Flower, which for their Beauty are preserved in the best Gardens; but the other less valuable Flowers may be planted in the Borders of the Parterre-garden for their Variety, where, being intermixed with other Flowers of different Seasons, they will make a good Appearance.

The fine Sorts of this Flower should remain undisturbed three Years, by which time they will have produc'd many Off-sets, and should be therefore taken up when their Leaves are decay'd, and planted into a fresh Bed, taking such of their Off-sets as are large enough to produce Flowers to plant in the Flower-garden; but the smaller Roots may be planted into a Nursery-bed, until they have obtained Strength enough to flower; but you must never suffer these Roots to lie out of the Ground when you remove them, but plant them again in a short time, otherwise they will perish.

During these three Years which I have advis'd the Roots to remain in the Beds, the Surface of the Earth should be stirr'd every Autumn with a Trowel, observing not to go so deep as to bruise the Root; and at the same time lay a thin Cover of very rotten Dung or Tanners Bark upon the Surface of the Beds; which, being wash'd into the Ground, will cause the Flowers to be larger, as also the Roots to make a greater Increase: you must also observe to keep them constantly clear from Weeds; and those Roots which you would preserve with Care, should not be suffered to seed.

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FRITILLARIA CRASSA. *Vide* Asclepias.

FRUTEX PAVONIUS. *Vide* Poinciana.

FUCHSIA. This Plant was so named by Father *Plumier*, who discovered it in *America*, in Honour to the Memory of *Leonard Fuchs*, a learned Botanist.

The Characters are ;

It hath a funnel-shaped Flower, consisting of one Leaf, and divided into several Parts at the Brim; whose Cup afterward becomes a roundish soft fleshy Fruit, which is divided into four Cells, which are full of roundish Seeds.

We have but one Sort of this Plant; *viz.*

FUCHSIA triphylla, flore coccineo. *Plum. Nov. Gen.* Three-leav'd Fuchsia, with a scarlet Flower.

This Plant is a Native in the warmest Parts of *America*: it was discovered by Father *Plumier*, in some of the *French Islands* in *America*; and was since found by the late Dr. *William Houstoun*, at *Carthagena* in *New-Spain*; from whence he sent the Seeds into *England*.

This is propagated by Seeds, which must be sown in Pots filled with rich light Earth, and plunged into an Hot-bed of Tanners Bark. In about a Month after the Seeds are sown, the Plants will begin to appear; when they should be carefully cleared from Weeds, and frequently refreshed with Water to promote their Growth; and when they are about two Inches high they should be shaken out of the Pots, and separated carefully; then plant each into a small Pot filled with light rich Earth, and plunge them again into an Hot-bed of Tanners Bark; being careful to screen them from the Sun, until they have taken new Root; after which time they must have

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fresh Air admitted to them every Day in proportion to the Warmth of the Season, and should be frequently watered; and when the Plants are grown so tall as to reach the Glasses, they should be removed into the Bark-stove, and plunged into the Tan-bed. In Winter time these Plants require to be kept very warm; and at that Season they must not have so much Water as in Summer; but it must be often repeated.

These Plants are too tender to thrive in the open Air in this Country, even in the hottest Part of the Year; therefore they should constantly remain in the Stove, observing to let in a large Share of fresh Air in Summer; but in Winter they must be kept warm: with this Management the Plants will produce their Flowers, and make a beautiful Appearance in the Stove, amongst other tender Exotic Plants.

FUMARIA, Fumatory.

The Characters are;

It hath divided Leaves resembling those of the umbelliferous Plants: the Flowers, which are collected into a Spike, are of an anomalous Figure, somewhat resembling a papilionaceous Flower, consisting of two Petals or Leaves, which open like two Lips, the upper Lip ending in a Spur: the Footstalk is joined in the middle Part of the Flower: the Fruit is either of a long or a round Figure, which is like a Pod, in which are contained many roundish Seeds.

The Species are;

1. *FUMARIA officinarum* & *Dioscoridis, flore purpureo.* C. B. The common Fumatory, with a purple Flower.

2. *FUMARIA minor tenuifolia.* C. B. Lesser narrow-leav'd Fumatory.

3. *FUMARIA sempervirens* & *florens, flore albo.* Flor. Bat. Ever-

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green

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green Fumatory, with a white Flower.

4. *FUMARIA lutea*. C. B. Yellow Fumatory.

5. *FUMARIA bulbosa, radice cava, major*. C. B. Great bulbous-rooted Fumatory, or hollow Root.

6. *FUMARIA bulbosa, radice cava, major, flore albo*. C. B. Great bulbous rooted Fumatory, with a white Flower.

7. *FUMARIA bulbosa, viridi flore*. Tourn. Bulbous-rooted Fumatory, with a green Flower.

8. *FUMARIA bulbosa, radice non cava, major*. C. B. Great bulbous-rooted Fumatory, with a Root not hollow.

The first of these Plants is sometimes used in Medicine, but is seldom cultivated in Gardens; it being very common in arable Land in most Parts of England.

The second Sort is not a Native of England, but is preserved in some curious Botanic Gardens for the sake of Variety. These are both annual Plants.

The third Sort is a perennial Plant, which, if planted in a dry Soil, and a warm Situation, will continue flowering almost the whole Year round; which renders it worthy of a Place in every good Garden.

The fourth Sort is also an abiding Plant, which requires the same Situation and Culture as the former. These two Plants will grow in Joints, or hollow Places in old Walls; which will render them less subject

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to decay, than if they were planted in a rich Soil. They may be propagated by sowing their Seeds soon after they are ripe; for if the Seeds are kept till the Spring, they very often miscarry.

These Plants may be suffered to grow on Walls, and in some abject Part of the Garden; for if they are admitted into the Borders of the Pleasure-garden, they will scatter their Seed, and become troublesome Weeds: but they are very proper Plants to grow on Ruins, or on the Sides of Grottoes or Rock-work, where, by their long Continuance in Flower, they will have a good Effect.

The fifth, sixth, seventh, and eighth Sorts are propagated by Offsets, as other bulbous-rooted Flowers: these produce their Flowers in the Beginning of April, and are very pretty Ornaments to Borders in a small Flower-garden. They are extreme hardy, but do not increase very fast, seldom producing Seeds with us; and their Bulbs do not multiply very much, especially if they are often transplanted. They love a light sandy Soil, and should be suffered to remain three Years undisturbed; in which time they will produce many Offsets. The best Season for transplanting them is from May to August, when the Leaves begin to die off; for if they are taken up when their Leaves are fresh, it will greatly weaken their Roots.

FURZ. Vide Genista.

The END of the FIRST VOLUME.

